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THE ALASKA RAILROAD: OVERVIEW AND OPERATIONAL ALTERNATIVES

INTRODUCTION

This **Review** *takes a look at the federally owned Alaska Railroad in the context of its apparent pending transfer to the State of Alaska. After describing the history of the railroad—its present physical plant, rolling stock, and its operations—we analyze the most important issues with which the state must deal: railroad land, employees, finances, competitive environment, and passenger service. We also review organizational structures that might be applied to the railroad following the end of federal control and make recommendations for further action. (See box on page 3 for a brief summary of study findings.)*

The Alaska Railroad (ARR) is unique in that it is (1) the only railroad in North America that is a federal agency, (2) the farthest north railroad in North America, and (3) considered (by some) as a frontier development tool. It has enjoyed a varied history and has alternately been the recipient of intense criticism and extensive federal grants. Originally conceived as a development project in the grand style of the Panana Canal (from which it received much of its early equipment), it quickly fell into disrepute, emerged as a military implement, was converted from pauper to spoiled child, and then allowed to sink into an anonymity which has plagued it to the present day.

The Alaska Railroad is an operating agency of the United States Department of Transportation, Federal Railroad Administration (FRA). As such it is subject to all the obscure federal policies visited upon such agencies, and its operational motivations are both political and economic. However, it has also become an important overland transport link in Alaska and a central element in the state's economic development process.

Changing Federal Policy

During the past decade, FRA has become increasingly interested in transferring ownership of the property to a nonfederal entity. The agency first introduced draft federal legislation to facilitate the transfer in 1971. However, the momentary prosperity of the ARR during the Alyeska pipeline construction project diminished federal interest in disposing of the property.

With the return of "normal" economic conditions in 1978, however, FRA was once again motivated to explore means of relieving itself of the ARR. The economic downturn also coincided with a shift in FRA policy, mainly due to its increasing involvement with Conrail and Amtrak.[1] By 1979, it was apparent that both organizations had become major fiscal and political liabilities for FRA, leading the agency to both a fear of and disinterest in attempts to operate *any* railroad. Thus, FRA's policy tended toward the dissolution of any rail property which

[1] Federally controlled railroad properties that had been unsuccessfully managed in the private sector.

This article was adapted from a report prepared for the Alaska Department of Transportation and Public Facilities, Division of Planning and Programming, by the Institute of Social and Economic Research and Bivens and Associates, Inc.

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FEATURE

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The Alaska Railroad: Overview and Operational Alternatives

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appeared to be economically marginal, including those controlled by FRA.

This policy, as it pertains to the Alaska Railroad, was first published in ARR's 1979 annual report (in mid-1980):

> Since the Government of the State of Alaska has substantial surplus funds because of the growth of oil revenues, the Federal Government believes that ownership of the Alaska Railroad should be with the State Government. The Federal Government believes the Alaska Railroad exists primarily for the benefit of the residents and shippers of Alaska; they need and deserve a much larger voice in determining the role they want the railroad to play.

This policy received additional emphasis when the Reagan administration took office in January 1981. The transfer of the ARR was consistent with emerging federal orientation in several areas, including (1) replacing a federal function with a local entity, (2) reducing federal employment, and (3) reducing FRA's funding requests.

The policy also supported FRA perceptions that (1) the ARR no longer served the function of a frontier development tool, but had become part of a more mature transportation and economic system, (2) Alaska could afford to operate and subsidize the railroad if necessary, (3) future prospects suggested that private enterprise might find the railroad an increasingly attractive investment, and (4) the ARR could more effectively support public and private objectives under a revised organizational and institutional structure.

To implement these views, FRA once again prepared draft legislation to authorize transfer of the Alaska Railroad to the state. This legislation was introduced into the U.S. Senate on July 17, 1981.

History of the Alaska Railroad

The ARR came into existence through an act of Congress on March 12, 1914. This legislation empowered the President to acquire and (or) construct a railroad, not to exceed 1,000 miles in length, to connect Alaska's interior navigable waterways and one or more coal fields with an ice-free harbor on the Gulf of Alaska. The Alaska Engineering Commission, which had previously located several potential routes, was directed by President Wilson to purchase the 71-mile Alaska Northern Railway and to extend its line from Seward to the head of navigation of Cook Inlet

and northward up the Susitna and Chulitna river valleys to a crossing of the Alaska Range near the headwaters of the Nenana River. From that point the railroad was to be built to the confluence of the Nenana and Tanana rivers and upriver to Fairbanks. Two branches were also constructed to tap coal deposits. One branch extended eastward up the Matanuska Valley and the other eastward from the juncture of the Healy and Nenana rivers. This basic system, with minor additions and deletions, has remained intact from its official completion in 1923 to the present (see Figure 1).

Deterioration and Rehabilitation

The decline of placer mining in the Tanana Valley prior to the completion of the railroad, the conversion of naval vessels from coal to oil soon after completion, and the general lack of economic activity along the line combined to produce operating deficits during the first decade and a half of ARR's operation. From 1924 to 1945, the railroad received no operating or capital appropriations from Congress. This resulted in a continuing deterioration of an already marginal physical structure. During the years before World War II, the railroad was maintained to only

SUMMARY OF ISSUES INVOLVED IN ARR TRANSFER

• **Pending Transfer of the Alaska Railroad.** The Federal Railroad Administration (FRA) is presently taking steps to transfer the Alaska Railroad (ARR) from the federal government to the State of Alaska. The FRA proposes to transfer the ARR to the state without charging a direct acquisition cost. However, FRA's proposed legislation also transfers all ARR's liabilities and obligations, which have not yet been clearly defined.

• **ARR Lands.** Lands required for effective railroad operation extend beyond the ARR's rights of way, yards, terminals, and ports, since the railroad requires not only materials-source lands, but also needs to lease lands to traffic-producing tenants. However, much of ARR's land holdings are presently uncertain, because Native claims have been filed on certain portions of it under the 1971 Alaska Native Claims Settlement Act.

• **Railroad Finances.** A 1980 ICC freight rate study of the ARR concluded that the present rates exceed the variable cost of transportation and fully compensate the carrier. In fact, in the past 3 years, even with poor economic conditions nationally and in Alaska, freight transport on the ARR fully met all out-of-pocket costs and some capital costs.

Passenger service, however, has long required subsidization by the freight traffic, and even this subsidy has not been enough. While an increase in passenger fares seems warranted, fares cannot be raised enough to fully meet the cost of passenger service without driving away passengers. This problem would be somewhat alleviated by separating revenue and cost accounting for passenger and freight service. Management needs to establish an aggressive passenger marketing program, moderately increase passenger fares, and request a public subsidy to cover remaining costs of service.

• **Outlook and Benefits of the ARR.** The ARR's freight service, available from Seward and Whittier all the way through Anchorage to Fairbanks, serves the needs of a majority of Alaskans. It is, and will continue to be, an important element in Alaska's transportation system. Not only is it essential to development of many of Alaska's resources, but by competing with nonrail carriers, the ARR assures competitive rates for shippers. Without the rail service alternative, costs of moving commodities would be much higher. And some products, such as large bulk shipment of coal, steel, sand and gravel could not be economically moved at all.

• **ARR Employees.** The ARR has for several years been reducing the numbers of its employees, and a hiring freeze has been in effect since January 20, 1981. As of mid-April 1981, the ARR had 679 employees and 785 authorized positions, a vacancy rate of 17 percent. Freight-user service could suffer should present employment levels persist in an expanding market.

As Department of Transportation personnel, the employees of the ARR have all the privileges and rights of other federal agency personnel. In addition, most ARR employees are members of various labor unions. Enjoying such double protection under existing agreements, employees will not likely wish to relinquish any of their existing rights. As a result, transferring these employees to the state could involve several complex problems.

Meeting all employer retirement and fund contributions for ARR employees will cost about $38 million during the next 20 years (1981 dollars). Or, if we include inflation and salary increases of 10 percent per year (compounded), the cost will total about $195 million, or an average annual contribution of $8.7 million. However, ARR now realizes and could expect to continue to realize adequate revenues from freight service to provide funds for this contribution. Freight revenues could also pay for employee sick leave ($4.3 million) and annual leave ($1.5 million).

• **Condition of Railroad.** The track, structures, and rights of way of the ARR are generally in good condition and well maintained. For the most part, the lines meet or exceed FRA Class IV standards.

The rolling stock and locomotives are generally well maintained and adequate for the traffic carried. However, much of the locomotive and car fleet is old, being previously well used by the military or other railroads. A fleet modernization program may be needed if traffic increases significantly.

Passenger cars are generally well maintained but are old and in need of substantial modernization.

The ARR is generally capable of servicing its equipment; its mechanical and electrical shops are well equipped and adequately support effective maintenance and modification of locomotives and rolling stock.

minimal branchline standards. This condition was aggravated by the fact that "official" completion in 1923 had still left a great deal of work to be done before the system could be considered technically adequate.

World War II provided ARR with a rush of traffic and much-needed income, as well as the now-important link with a second ice-free port, at Whittier. However, the war also accelerated deterioration of the property. Even with military assistance between 1942 and 1945, the railroad was almost physically exhausted by the end of the war. This situation demanded a decision on whether to abandon the railroad or rebuild it. The Federal Government decided to rebuild.

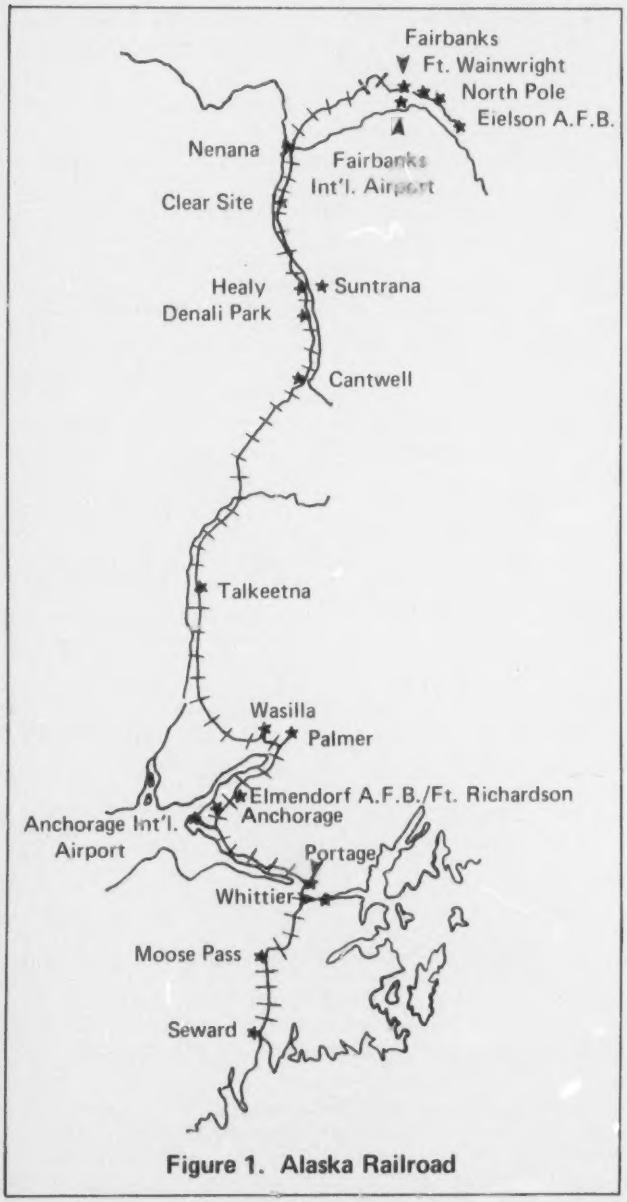

Figure 1. Alaska Railroad

This decision resulted in a project that was to last 30 years and become one of the most controversial episodes in the ARR's history. Actual expenditures began in 1946 and over the construction term amounted to almost $95 million. The actual value of these improvements, however, was considerably greater since much property was transferred at nominal cost from other federal agencies. The rehabilitation included strengthening the roadbed; laying new track; replacing bridges and buildings; buying new locomotives, rolling stock, and maintenance equipment; and building new shops, as well as terminals at Anchorage, Fairbanks, and Seward.

Most of the work, from Whittier to Fairbanks, was completed by 1952; however, the main line to Seward, begun in 1953, was not completed until 1958, and only after a special appropriation was requested by the Defense Department. By the end of the rehabilitation period, the railroad would finally be considered complete and was basically in its present form.

The 1964 Earthquake

Total damage to the Alaska Railroad from the 1964 earthquake amounted to approximately $27 million, of which $25.4 million was obtained through Congressional appropriations.[2] Of the total, almost $11.7 million was required to reconstruct the line from Portage to Seward and the Seward Terminal. Records of the controversy over whether or not the Seward reconstruction should be undertaken indicate that it could not be justified on the basis of capital and future operating costs. However, the Alaska Railroad and its owner, the Department of the Interior, presented funding appeals based on a combination of economic and social factors. One letter stated:

> The decision on reconstruction is not restricted to economic considerations alone; in many respects humane and equitable factors assume even greater significance. The essential fact is that failure to restore rail service means that Seward will disappear as an important factor in Alaska life.

[2]These appropriations should be clearly distinguished from other federal funds invested in the ARR. The railroad's earthquake rebuilding monies were only a small part of the $400 million in disaster relief assistance provided to Alaska. The vast majority of this money went to individuals, private companies, and local governments through a variety of assistance programs. Thus, for policy purposes, the funding of the ARR reconstruction should be treated in the same light as one would all other economic entities of the state, rather than as a federal agency appropriation.

Given the information available at the time, the decision to rebuild to Seward may or may not have been economically sound. The important point is that as a federal agency, the railroad based a major part of its argument to rebuild the line on factors which were not necessarily in its own economic best interest. A private firm, confronted with the same circumstances, would not likely have used the same reasoning nor have made the same decision.

Railroad Barges and the Port of Anchorage

Shortly before the earthquake, two other events occurred which, together with the subsequent loss of Seward, caused a long-term change in the character of both the railroad's traffic patterns and those of Alaska's entire railbelt region. These were (1) the initiation of railcar barge services between Alaska and both Canada and the continental United States and (2) the opening of the Port of Anchorage to year-round container ship service. Of the two, the most important was the barge service—not in terms of movement volumes, but rather in the options made available to Alaska shippers. The action of the railroad and its barge connections made it possible for the first time to ship directly from the manufacturer or major distributor, wherever his location, directly to an Alaska location without reloading in Seattle and Alaska ports. The economic independence from Seattle wholesalers offered by this service forced steamship companies, particularly Alaska Steamship and Sea-Land Service, to establish similar options.

Construction of the Trans-Alaska Oil Pipeline

The final set of events which shaped the present Alaska Railroad were those surrounding its participation in the construction of the trans-Alaska pipeline. During the years 1974 through 1977, the railroad probably moved the largest, most lucrative volumes of traffic since World War II, and the physical system underwent a similar, although somewhat milder, strain. Once again, the only possible solution, given the federal agency status of the railroad, was to transfer property from other federal organizations (most notably locomotives from the military) and to use Congressional appropriations for capital improvements and major maintenance. Twenty-four million dollars in appropriations, in addition to $13 million in improvements financed through earnings, permitted the railroad to emerge, for the first time, from a period of heavy usage in better physical condition than it entered.

THE PHYSICAL PLANT

The Main Line and Branches

The Alaska Railroad (ARR) today has a single track mainline of 419 miles from Whittier to Fairbanks via Anchorage, Wasilla, Healy, and Nenana. In addition, there are six branches with an aggregate total of 115 miles. These include the 28-mile branch from Fairbanks to Eielson, the 10-mile Fairbanks International Airport spur from Ft. Wainwright to the airport, the 4-mile coal branch from Healy to Suntrana, the 7-mile line from Matanuska Junction to Palmer, the 3-mile Anchorage International Airport spur, and the 63-mile line from Portage to Seward.[3]

The mainline has only mild gradients along the water level route between Whittier and Anchorage and up the Susitna Valley as far north as Gold Creek (about 150 miles from Anchorage). However, the severe grades on the next 35 miles to the summit of the pass through the Alaska Range reduce the tonnage ratings of locomotives by about 40 percent. The grades on the north side of the range are much easier, being similar to the water level line in the lower Susitna Valley, with the exception of a single short five-mile stretch. The mainline north of the range to Fairbanks and the Eielson branch pass through generally rolling country with mild gradients.

The most severe portion of the railroad is the line from Portage to Seward, which crosses two mountain barriers with steep gradients. Both restrict southbound traffic, reducing the tonnage a locomotive can handle by 75 percent and 65 percent, respectively, when compared with what can be moved between Anchorage and Portage. Northward grades are slightly milder but still are more demanding than any of the line north of Portage.

Passing sidings are spaced about every 7-to-10-miles so that trains may meet and pass. However, sidings long enough to accommodate most freight trains are less frequent. In addition, there are tracks at various points along the line which serve industries not located at a major yard. Table 1 summarizes the physical features of the mainline and principal branches.

Track Conditions

The track structure of the Alaska Railroad is currently in excellent condition, particularly considering the relatively light traffic. The main line and the line to Seward are maintained to FRA Class IV quality standards which permit freight trains speeds up to 60 miles per hour and passenger trains to 80 miles per hour, if certain safety conditions are met. In fact, the Alaska Railroad must limit its train speeds

[3]It should be noted that the railroad considers the line to Seward as part of the main line, and it is maintained to these standards. However, it has the lightest traffic of the entire system (about 300,000 gross tons annually).

Table 1

Summary of Alaska Right-of-Way Characteristics

Line Segment	Distance	Tonnage Rating Northbound[a]	Tonnage Rating Southbound[a]	Passing Sidings over 3000 ft.	Industrial Tracks Between Stations[b]
Seward-Divide	9.1	875	4,000	0	0
Divide-Primrose	6.4	1,600	850	0	0
Primrose-Hunter	21.6	1,600	4,000	2	3
Hunter-Grandview	4.9	900	4,000	0	0
Grandview-Spencer	10.9	4,000	640	1	2
Spencer-Portage	8.4	4,000	3,000	1	0
Whittier-Portage	12.4	2,600	3,000	1	0
Portage-Potter	36.4	4,000	3,000	1	0
Potter-Anchorage	13.7	2,000	2,500	1	22
Anchorage-Matanuska	36.4	1,850	3,000	3	5
Matanuska-Palmer	6.5	2,000	4,000	0	6
Matanuska-Goldcreek	112.5	1,850	2,500	8	9
Goldcreek-Hurricane	18.2	1,100	2,500	0	0
Hurricane-Honolulu	7.3	1,100	1,325	1	0
Honolulu-Colorado	8.4	1,100	1,800	1	0
Colorado-Summit	15.4	1,800	1,800	1	1
Summit-Healy	45.6	2,700	1,800	1	6
Healy-Nenana	53.6	4,000	1,800	1	7
Nenana-Fairbanks	58.6	3,000	3,000	4	4
Fairbanks-Eielson	28.0	3,000	2,000	0	9
Yards:	Seward Nenana	Healy Anchorage	Whittier Fairbanks		

[a]Tonnage ratings for 3,000 horsepower locomotives.

[b]Additional industrial tracks in yards, at military bases (Ft. Richardson, Elmendorf, Eielson, Ft. Wainwright), and at Anchorage and Fairbanks International Airports.

Source: Alaska Railroad, Timetable No. 109.

for freight and passenger trains to 49 and 59 miles per hour, respectively, since it has no automatic block signal system, one of the FRA safety requirements for higher speeds. In addition, the number of sharp curves places further speed limitations on some sections of the line. These allow the railroad to follow the contour of the land in more mountainous areas so that the relatively mild gradients (which are extremely important to efficient operation) can be maintained.

Tracks, Bridges, and Yards

The track and bridges of both the main line and the Seward line are maintained to accommodate cars carrying a load of up to 100 tons, although the Eielson and Suntrana branches have lower loading limits. Present operation plans call for limiting 100-ton capacity cars to 80 tons when they are used to move bulk products, such as coal and gravel. This is due to the excessive track wear caused by trains composed entirely of 100-ton capacity cars.

The railroad also operates and maintains a number of yards to serve local industries, sort cars, and to maintain its equipment. These vary considerably depending on the purpose for which they are used. The yard at Seward serves the railroad-owned port facilities at that location and includes a number of car marshalling tracks, a small equipment maintenance facility, the dock facilities, and several tracks to local industries. Whittier is designed and used differently; since it is the interchange point for railcar service, the facility is primarily designed to serve the two railroad-owned car-barge slips. Secondarily, facilities in Whittier include those for the Whittier-Portage passenger-auto shuttle service and those for the military dock and petroleum terminal.

Anchorage has the railroad's major classification yard, locomotive and car maintenance shops, headquarters, and some car storage facilities. The yards also serve a number of major and minor indus-

tries including the Anchorage Port, Elmendorf Air Force Base, and Fort Richardson. There are also container-on-flatcar and trailer-on-flatcar facilities in Anchorage.

Healy has a small yard and locomotive service facility and exists primarily to serve the nearby coal mines. The Nenana yard exists solely to serve the railroad's small river port in that town and several other local industries. Fairbanks contains a small classification yard, limited locomotive and car shops, and trackage to serve local industrial facilities. The yard is also the base for service to Fort Wainwright and Eielson Air Force Base, as well as the North Pole Refinery.

Equipment

The Alaska Railroad uses a variety of equipment to produce revenue and maintain the property. The largest and most costly units are the locomotives—the railroad has sixty-five, with an average age of 18.7 years. The most modern of the units are the fifteen 3,000-horsepower road-switcher locomotives built by General Motors between 1975 and 1978. These are comparable to the most modern equipment on any railroad. Ten older 1,600-horsepower road-switcher locomotives were completely rebuilt in 1977 and have a useful efficient life at least through 1992. Four other 2,500-horsepower road switchers acquired in the mid-sixties are old enough to be eligible for complete rebuilding, and one has already been rebuilt. Of the remaining thirty-six units, most were built between 1951 and 1953, and only about ten to twelve are usually in service under present traffic conditions.

Seven of the older car-body type locomotives are used in passenger and mixed train service between Anchorage and Fairbanks, while several ex-military road switchers are used in Anchorage yard service and as backup yard engines around the system. Several of the car-body types might be usefully rebuilt if passenger service is continued. However, the ex-military units are probably near the end of their useful lives. Several of the older locomotives of both types are being cannibalized to provide parts for the others.

The freight car fleet numbered 1,754 units in 1980, with an average age of 32 years. Table 2 shows the distribution of freight cars by functional type. Clearly, the freight car roster is dominated by the open types, including the flat cars, gondolas, open noppers, and dump/ballast cars. This is consistent with the types of traffic being handled with most of the tonnage consisting of bulk materials, such as coal, gravel, logs, and pipe along with trailer- and container-on-flat-car (TOFC/COFC) service. Another important component of the car fleet available to ARR are the tank cars, particularly the privately owned cars leased to oil companies served by the railroad and used for petroleum product distribution throughout the railbelt.

Table 2

Alaska Railroad Freight Cars

Car Type	Number	Most Recent Year Built	Number Built in Most Recent Year
Box	235	1965	34
Flat	389	1976	100
Gondola	394	1943	395
Hopper, Open	348	1981	25
Hopper, Covered	21	1970	9
Tank	139	1970	3
Refrigerator	16	1966	11
Dump and Ballast	157	1958	27
Caboose	27	1977	3
Other	28	1943	2
Subtotal	1,754	1981	
Privately Owned Cars Assigned to Alaska Railroad			
Flat	52	1979	8
Tank	230	1980	16
Subtotal	282	1980	
Total	2,036		

Source: Alaska Railroad 1980 Annual Report and Alaska Railroad Equipment Summary.

Of particular concern is the age of much of the ARR's own fleet and the limited capacity of many of the units. Only 340 cars have been purchased new since 1960 and only 140 cars since 1970. Even though the fleet has been well maintained, maintenance will become more costly as the cars continue to age. The aging problem also creates problems in ARR's interchange of traffic with other railroads. Federal safety standards limit the age of equipment which may be used in interline service. Some of ARR's equipment is already prohibited from participating in this traffic, while other cars are allowed to operate only with waivers.

The limited capacity of some cars could be detrimental to the railroad, particularly for transportation of some future bulk shipments. This is also a difficulty with ARR's tank car fleet (although the private cars assigned to ARR are modern units). With a few exceptions, however, this factor does not appear to limit service of existing traffic.

Table 3

Alaska Railroad Passenger Cars

Type	Number Owned	Number Leased	Average Age
Coach	21	–	29
Dome Coach	3	4	26
Combination Passenger/Baggage	3	–	36
Food Service & Recreation	10	2	27
Baggage	6	–	20
Power Cars	4	–	38
Business Car	1	–	24
Total	48	6	26

Source: FY 1980 Annual Report, The Alaska Railroad.

The passenger car fleet consists of 48 units owned by the ARR and 6 leased from Amtrak for supporting the increased 1981 summer service. Table 3 shows the types and ages of the present equipment. Although not as old as the railroad's freight fleet, the passenger cars are an aging asset which will require a complete rebuilding if the present level of service is to be continued. Twenty-eight of the cars were acquired from the Union Pacific Railroad in 1971, eight came from the Southern Railway in 1980, and the remainder were rebuilt from surplus military hospital cars. In recognition of the need to extensively rebuild the current fleet, if passenger service is to continue, the railroad currently has ten cars being rebuilt under contract to General Electric.

In addition to revenue-producing equipment, the ARR also has 205 units of maintenance and emergency equipment. This includes such items as snow plows, cranes, and cars for housing mobile maintenance forces. This is supplemented by a considerable fleet of on- and off-track machinery used in maintenance and in-house construction work. Also, sufficient shop facilities and machinery are available to perform any level of maintenance required by the car and locomotive fleets; however, space and personnel limitations sometimes preclude programming a large volume of heavy repair or rebuilding work over a short period. Therefore, large projects, such as the previously mentioned passenger car rebuilding may be contracted to outside firms.

OPERATIONS

Clearly, the purpose of ARR's equipment is to provide train service to the railroad's customers. Since rail operations provide the ARR's largest proportion of revenues, they are thus of special interest to this study. Table 4 lists the types of trains operated by the ARR and the number operated in the years 1976-1980; Table 5 indicates the total train miles produced by these trains on each segment of the railroad. Currently, the service can be categorized as follows:

1. Anchorage—Fairbanks — Passenger and mixed train service
2. Anchorage—Fairbanks — Freight service
3. Healy—Fairbanks — Coal trains
4. Anchorage--Palmer — Gravel trains
5. Anchorage—Whittier — Freight service
6. Anchorage—Whittier — Passenger shuttles
7. Anchorage—Seward — Freight service
8. Anchorage and Fairbanks industrial switching trains

Table 6 summarizes the present frequency of these operations along with the winter schedules for the same services. As can be seen, frequency of operation can vary considerably, particularly for the passenger and gravel trains. This leads to equipment utilization problems in that a sufficient number of cars and locomotives must be on hand to meet peak conditions but some can be expected to be surplus during slack seasons. This is aggravated by the difficulty that ARR, as a federal agency, has in

Table 4

Approximate Number of Trains Operated
(All are roundtrips unless otherwise noted)

Service	1980	1979	1978	1977	1976
Anchorage-Seward Freight	46	53	46	68	132
Anchorage-Whittier Freight	129	123	158	187	122
Anchorage-Palmer Local Freight	32	32	38	36	37
Anchorage-Palmer Gravel Trains	102	146	158	187	235
Anchorage-Fairbanks Freight	181	192	213	271	340
Anchorage-Fairbanks Mixed[a]	74	70	70	69	71
Fairbanks-Healy Coal Trains[b]	145	139	139	156	191
Fairbanks-Eielson Industrial Switchers[b]	260	243	243	260	330
Anchorage Airport Industrial Switchers[b]	295	260	260	277	295
Anchorage-Fairbanks Passenger	126	114	114	114	111
Anchorage-Whittier Shuttle Trains	226	222	221	234	209
Special Passenger Trains	14	13	10	–	–

[a]A mixed train includes both freight and passenger service in the same train.

[b]Estimates based on information provided by Alaska Railroad officials.

Source: Crew Call Sheets as computed by Interstate Commerce Commission; conversations with Alaska Railroad officials.

leasing supplemental equipment, a strategy common throughout the rail industry in such circumstances.

Also of interest is the changing traffic pattern that has been occurring during the past 5 years (Table 4). Since costs to operate additional trains (above some minimum level) do not rise as fast as the number of trains and while revenues tend to increase directly with the number of revenue trains, it is evident that the cyclic nature of Alaska's economy very directly affects ARR's net income. Table 4 graphically illustrates the difficulties faced by the railroad's management during the last 3 years of declining and stagnating economic activity.

Table 5 also shows the large part that passenger service plays in ARR operations. With passenger and mixed train service accounting for 48 percent of the 1980 train miles, it is obviously an important element in the cost structure of the railroad.

The length of ARR trains varies considerably by type of service. Freight trains to Seward generally comprise 40 to 60 cars while those to Whittier are 45 to 50 cars, depending on which barges they are meeting. The unit gravel trains between Anchorage and Palmer consistently have either 60 or 80 hopper cars each. The Anchorage-Fairbanks freights range between 60 to 100 cars, and the Healy-Fairbanks freights range between 40 to 60 cars. The mixed trains between Anchorage and Fairbanks will have 2 to 6 passenger and 20 to 25 freight cars while summer passenger trains have 6 to 10 cars. In a particular circumstance, maximum train length may be dictated by length of passing sidings, traffic demands, locomotive availability, union agreements, grades, barge capacity, or climate.[4]

Table 5

Approximate Revenue Train Miles

Rail Segment/Service	1980	1979	1978
Healy-Fairbanks/			
Freight	66,163	67,654	64,953
Mixed	15,259	16,157	16,157
Passenger	28,274	24,908	24,908
Anchorage-Healy/			
Freight	97,103	106,123	119,876
Mixed	33,156	35,107	35,107
Passenger	61,437	54,248	54,124
Anchorage-Whittier or Seward/			
Freight	27,205	26,968	29,526
Passenger	38,054	37,166	35,913
ARR Total/			
Freight	190,471	200,745	214,355
Mixed	48,415	51,264	51,264
Passenger	127,765	116,322	114,945
Total	366,651	368,331	380,564

Source: Computed by Interstate Commerce Commission from Train Mile Reports.

Table 6

Alaska Railroad Train Service
(in trips per week)

Service	Summer 1981	Winter 1981-82
Freight		
Anchorage-Fairbanks	4	5
Anchorage-Seward	bi-monthly	1
Anchorage-Palmer/Local	bi-monthly	–
Anchorage-Palmer/Gravel	20	–
Healy-Fairbanks	3	5
Anchorage-Whittier/AHT[a]	every 5 days	1
Anchorage-Whittier/CNR[b]	every 9 days	bi-monthly
Mixed		
Anchorage-Fairbanks	3	1
Passenger		
Anchorage-Fairbanks	7	–
Anchorage-Whittier	9	3

[a]AHT = Alaska Hydro Train Railcar Barges.

[b]CNR = Canadian National Railway Railcar Barges.

Source: Alaska Railroad officials.

Traffic Base

The ARR transports only a few commodities between a small number of origins and destinations. ARR traffic logically divides itself into two basic components: local and interline. Of the two, the local movements (strictly ARR origins and destinations) generate the most tonnage but relatively low levels of revenue per ton-mile. The interline traffic is that interchanged between ARR and either Alaska Hydro-Train or Canadian National Railway through the car-barge facility at Whittier or the trailer and container movements through the Port of Anchorage that are forwarded by the railroad.

Local

Tables 7 and 8 show the revenue tons transported by the railroad and the resulting revenues. As can be seen, the two consistently largest movements are (1) the coal moved from Healy to power plants at Clear Air Force Station, the University of Alaska in Fairbanks, Fairbanks, Fort Wainwright, and Eielson Air Force Base and (2) the gravel moved from Palmer to the three largest aggregate companies in Anchorage. Both are fairly short hauls and involve

[4]In the winter, decreased airbrake response time and increased train friction may limit length.

Table 7

Freight Traffic Revenue Tons Carried
(in thousands of tons)

Commodity	1981	1980	1979	1978	1977
Coal	653.0	590.2	523.9	593.3	550.0
Sand & Gravel	1,796.8	396.2	637.5	727.2	699.5
Petroleum	399.1	251.7	219.6	373.9	532.3
Forest Products	100.7	108.8	55.2	67.8	82.0
Manufactured Products	311.9	292.1	276.9	305.9	326.7
TOFC/COFC*	112.5	92.4	88.7	99.5	99.7
Other	8.1	9.9	7.1	10.1	15.1
Total	3,362.1	1,741.3	1,808.9	2,177.7	2,305.3

*Trailer-on-flatcar/Container-on-flatcar.

Source: Alaska Railroad Annual Reports.

commodities of relatively low value.

Petroleum products represent the most lucrative of the larger, local movements. Since the construction of the North Pole refinery, this traffic has consisted principally of gasoline moving from Anchorage to Fairbanks. However, there has recently been a growth in the opposite direction in movements of jet and diesel fuel supplies from North Pole refinery to distributors in Anchorage and to the Anchorage International Airport. The railroad also delivers fuel to Fairbanks International Airport and the Anchorage Airport from sources other than North Pole.

The other significant intrastate movements include logs from Nenana to Seward,[5] cement from Anchorage to Fairbanks, pipe from either the Seward or Anchorage ports to Fairbanks for forwarding to the North Slope, and a limited amount of local trailer-on-flatcar business between Anchorage and Fairbanks.

Interline Traffic

Interline traffic differs considerably from local traffic. A major component is trailer-on-flatcar and container-on-flatcar traffic forwarded by the railroad on substitute service agreements with Totem Ocean Trailer Express and Sea-Land Service Company between Anchorage and Fairbanks. While this traffic amounts to only 90,000 to 100,000 tons annually, it carries a premium rate because of its time sensitivity and long distance. This traffic produces almost as much revenue as the much larger coal movement. It is time competitive with over-the-road movements and generally carries a lower tariff than motor carriers offer.

The railroad port at Whittier receives the larger part of the interline business. This traffic is composed of all types of consumer and industrial goods including building products, furniture, chemicals, oil field service equipment, fertilizers, machinery, vehicles, foodstuffs, and other goods. Most of those cars with west coast origins arrive aboard Alaska Hydro-Train (AHT) barges from Seattle. However, cars from mid-western, eastern, and Canadian origins tend to move through Prince Rupert via Canadian National Railway (CNR) and the barges they operate. The AHT movements total 200,000 to 300,000 tons annually while CNR moves about 30,000 to 40,000 tons. While these two comprise only 10 to 15 percent of ARR's total traffic tonnage, they generate between 30 to 40 percent of the revenues because of the value of traffic and the proportion of the total that moves fairly long distances. Presently about 50 percent goes to Anchorage while the remainder goes to Interior or Kenai Peninsula points.

Several characteristics of ARR traffic are important to understand because they define both the present and likely future markets which the railroad will serve. The railroad, as an instrument of mass movement, is generally oriented toward industrial rather than consumer customers; it provides most of its services to a limited clientele which has direct siding access to the system. It should be remembered that rail service is attractive to a relatively limited number of shippers; however, these shippers usually comprise the basic elements of Alaska's economy, such as petroleum production and refining, mining; construction; timber; the military; wholesaling;

Table 8

Freight Traffic Revenue
(in thousands of $)

Commodity	1981	1980	1979	1978	1977
Coal	$4,637	$3,717	$3,207	$3,507	$3,115
Sand & Gravel	2,712	556	1,009	972	879
Petroleum	6,700	4,691	3,877	6,362	11,514
Forest Products	1,734	1,253	886	2,131	1,402
Manufactured Products	13,631	8,225	6,738	8,370	8,691
TOFC/COFC*	4,414	3,054	2,327	2,434	2,639
Other	181	168	114	115	244
Total	34,009	21,664	18,158	22,991	28,483

*Trailer-on-flatcar/Container-on-flatcar.

Source: Alaska Railroad Annual Reports.

[5]This movement ceased in early 1981 with the collapse of the Japanese housing market.

and, potentially, heavy manufacturing, agriculture, and chemicals. Thus, the railroad tends to serve only those organizations which ship in sufficient quantity to make use of the discounts offered by carload, multi-carload, or trainload tariffs. For local traffic, this implies that the primary shippers will be the very largest industries in the railbelt, particularly those related to energy, construction, and resource development. This is particularly true given the small size of Alaska's heavy manufacturing and agriculture sectors. Should these two traditionally rail-oriented groups develop into a significant force in the state, they would become important revenue sources for ARR.

The interline traffic, particularly the railcar movements, is a bit more complex. For these movements several factors are important in determining the appeal of rail service. While the ability to order in carload or greater amounts is important, several other factors also influence the shippers' choice of mode. An important characteristic of many of these movements is that they involve commodities which are either not produced or wholesaled in the Seattle area or which can be procured more inexpensively by going beyond Seattle and dealing in sufficiently large quantities. This is particularly important for the Canadian National traffic. Another important feature of these movements is that they usually involve commodities which normally move by rail on the continental rail system, thus, making it attractive to avoid an additional set of loading and unloading changes at the port of embarkation. A fourth characteristic of considerable importance is the distance of a shipper's plant or warehouse from a rail siding. Only 5 to 10 percent of railcar shipments are distributed to their consignee from a central public warehouse or forwarding facility by truck, and these usually to the smaller, more infrequent shippers.

Together, these factors define a fairly narrow market to which ARR's interline service can appeal. However, as noted earlier, it is a very important market. It is also a fairly volatile one which varies considerably with the levels of activity in specific industrial economic sectors (i.e., construction), rather than being oriented toward the more stable consumer sector. While innovative marketing can stabilize these patterns somewhat and also potentially increase market share, it is unlikely that it can penetrate more than 30 percent of the U.S.-Railbelt Alaska trade without a significant shift in the texture of the Alaska economy or a dramatic change in competition. It is also notable that ARR's ability to enlarge its share of the market is limited by the capability and number of railcar barges which private operators have available and are willing to commit to the service.

Outlook

During the next 3 to 5 years the railbelt economic prospects provide considerable encouragement for the stabilization of the railroad's freight operations at a sufficiently high level to keep it viable. There are enough moderate-to-large-scale construction projects to provide firm prospects for a continuing high level of traffic. In addition, the prospect of moving 800,000 metric tons of coal annually from Healy to a Seward export terminal provides an important long-term, as well as seasonal, element of stability. It is also the type of movement for which the railroad is ideally suited. It adds significantly to revenues without proportionally increasing costs by utilizing already existing capacity and capabilities.

MAJOR RESTRUCTURING ISSUES

Clearly, there is much more to the Alaska Railroad than simply the enumeration of the physical and operational features indicated above. Its land holdings, employees, finances, competitive and regulatory environment, and passenger service must also be considered in any restructuring of the property. These issues have emerged as being the most critical now being faced by the state or any new potential owner or operator of the Alaska Railroad.

Land

The following discussion down through "Native Village Selection Area Claims" page 14, was prepared by the Office of General Counsel of the Federal Railroad Administration.

Land is perhaps the most valuable fixed asset currently controlled by the Alaska Railroad (ARR). It is also an extremely important asset for operation, maintenance, and traffic development purposes. The total lands under control of the railroad are about 38,000 acres. The ARR has acquired its land through executive order, public land order, purchase, trade, and BLM trust deed. The earliest acquisitions were in 1914—the latest (.2 acres), in 1970. While these holdings are not extensive, they are among the most valuable industrial lands in Alaska. Of the total lands, about 12,000 acres are used for the right-of-way. The remaining 26,000 acres are used or reserved for marine and rail terminals, gravel resources, right-of-way erosion protection, industrial leases, gravel and rock reserves, railroad administration, and future development and facility expansion. Since the Alaska Native Claims Settlement Act of 1971 (ANCSA), both the ownership and use of these lands has been clouded. Table 9 indicates the location and quantities of land and the Native villages that have filed claims against particular parcels.

The railroad land holdings fall within seven

Native village selection areas and four Native regions that were established by ANCSA. Approximately 8,035 acres of railroad land, or 21 percent of the total holdings, are located in Native village selection areas and are potentially subject to claims by Native village corporations. Substantially all railroad land, whether or not located in a Native village or regional area, may ultimately be claimed by Cook Inlet Region, Incorporated (CIRI) under the special authorization that allows CIRI to select land outside its regional boundaries.

Right-of-way Lands

The main line right-of-way from Seward to Fairbanks was established by executive order in 1915.[6] The right-of-way lands of two small, private railroads were purchased to form the first 70 miles north from Seward and part of the right-of-way approaching Fairbanks. The balance of the original right-of-way was reserved from public domain by the Alaska Engineering Commission under authority of the Alaska Railroad Act and the 1915 executive order. Other public lands have been acquired over the years and now provide branch line connections to Palmer, Whittier, and other towns. Spur lines have been constructed to provide access to airports and coal fields along the railbelt. Defense lands have been transferred to the railroad for construction of rail lines into several defense installations. The railroad has also purchased some right-of-way lands from private individuals or from state and local governments. The right-of-way is mostly 200 feet wide, with some variations. The right-of-way is wider at several locations where needed for control of washouts and for steep cuts and fills. Narrower rights-of-way are common on several spur lines where the railroad passes through military reservations or where other factors hindered the acquisition of a full 200-foot right-of-way.

Non-Right-of-Way Lands

The 26,521 acres of railroad land other than right-of-way lands were acquired by executive orders, public land orders, transfers, purchases from private owners, and by trade for other lands with state and local governments. These land parcels range in size from 0.4 acres up to 5,830 acres at twenty-seven locations adjacent to the right-of-way and three smaller locations off the railbelt. These lands were acquired to support operation of the railroad. About 1,000 acres were leased to businesses which provide lease revenue and generate rail traffic for the railroad. Another 9,000 acres are used as active gravel and rock quarries or 425 held for the railroad's future gravel and rock needs. Other parcels are used for storage, maintenance, and terminals. About 100 acres are used for the operation of the Yutana Barge Line at Nenana and another 570 acres are part of the Seward and Whittier port and terminal facilities. The largest three parcels are located in the remote areas of Curry (4,970 acres), Midway (3,811 acres), and Healy (5,830 acres). These large parcels are mostly vacant and are held by the railroad for controlling watershed, providing gravel resources, and allowing future development or expansion of the railroad.

The three pieces of land not adjacent to the right-of-way are a presently leased 50-acre parcel in Valdez that was used to handle railcars from ocean-going barges in support of the Alaska oil pipeline construction and two parcels totaling 60.4 acres (60 acres at Holy Cross and 0.4 acres at Tanana) that are leased as docking and storage areas by Yutana Barge Lines.

Native Village Selection Area Claims

Table 9 shows railroad lands that are located within Native village selection areas. Claims have been filed by Native village corporations for virtually all railroad lands that lie within these areas. The extent to which these lands will ultimately be conveyed to the village corporations will depend on determinations made by the Department of the Interior as to which lands are actually used by the railroad and, therefore, exempt from selection under section 3(e) of ANCSA. The Department of the Interior published final 3(e) regulations that went into effect in late 1980, setting narrow standards for determining which lands are actually used by the railroad. Under the regulations, the railroad would not retain any leased land or gravel reserves claimed by a Native corporation, and the railroad's right-of-way would be converted into a limited easement right across land that would be conveyed to the Native claimants. In the first major claim for railroad land within a village selection area, the Federal/State Land Use Planning Commission (LUPC), an advisory body established by ANCSA, recommended that 90 percent of the railroad's land holdings claimed by the Eklutna Village Corporation should be conveyed. This recommendation includes all leased lands, all right-of-way lands, and substantially all gravel reserves and would leave the railroad with only a small storage yard and one gravel pit in this area. The railroad would retain only 240 acres out of its present 2,700 acres in this area. Although the 3(e) regulations are now final, the Department of the Interior has neither formally ruled on

[6]Executive Order No. 1, April 10, 1915.

Table 9

Alaska Railroad Lands

Location	Total Acres	Acres Leased (Annual Lease Revenue)		Acres Containing Gravel & Rock Reserves (Est. Cubic Yards in Ground)		Acres Within Native Selection Area (Name of Native Village)	
1. Seward	299	55	($123,000)		--	--	
2. Crown Point	81	1	($1,600)		--	--	
3. Moose Pass	5.6		--		--	--	
4. Portage	900		--		--	--	
5. Whittier	272	15	($3,500)	100	($150,000)	--	
6. Anchorage	661	332	($1,500,000)		--	--	
7. Eagle River	1,800	0.1	($9,400)	1,450	(9,000,000)	1,800	(Eklutna)
8. Birchwood	251		--	150	(1,800,000)	251	(Eklutna)
9. Eklutna	343		--	343	(2,300,000)	343	(Eklutna)
9a. Eklutna-BLM Gravel Reserve	301		--	301	--	301	(Eklutna)
10. Matanuska	199		--		--	199	(Eklutna)
11. Pittman	145		--	145	(2,100,000)	145	(Eklutna & Knik)
12. Willow	56		--		--	--	
13. Gravel Pit	215		--	215	(2,200,000)	--	
14. Talkeetna	144		--		--	--	
15. Curry	4,970		--	1,200	(10,000,000)	--	
16. Gold Creek	26		--		--	--	
17. Chulitna	100		--	100	(1,500,000)	--	
18. Midway	3,811		--	1,000	(3,900,000)	--	
19. Colorado	44		--	44	(650,000)	--	
20. Broad Pass	1,070		--	600	(1,600,000)	630	(Cantwell)
21. McKinley Park	18.4	0.3	($5,700)		--	--	
22. Healy	5,830	101	($13,380)	600	(5,200,000)	--	
23. Lignite	1,260	278	(2,400)		--	--	
24. Clear	2,780		--	2,780	(40,000,000)	640	(Nenana)
25. Nenana	279	104	($221,000)		--	279	(Nenana)
26. Fairbanks	461	92	($250,000)		--	--	
27. Holy Cross	60	4	($1)		--	60	(Holy Cross)
28. Tanana	0.4		--		--	0.4	(Tanana)
29. Moose Creek	89		--		--	89	(Eklutna)
30. Valdez	50	17	($41,250)		--	--	
Subtotal	26,521.4	999.4	($2,171,231)	9,028	(80,400,000)	4,737.4	
% of Subtotal		3.8%			34.0%	17.9%	
			Right-of-Way Lands			2,863.9*	
Seward-Fairbanks	10,677.2		--		--	--	
Portage-Whittier	184		--		--	--	
Fairbanks-Eielson	470.3		--		--	--	
Healy-Suntrana	111.5		--		--	--	
Matanuska-Chickaloon	434.1		--		--	434.1*	
Subtotal	11,877.1					3,298	
% of Subtotal	27.8%						
TOTAL	38,398.5					8,035.4	
% of TOTAL						20.9%	

*Right-of-way miles in village selection area: Nenana, 40.5 miles; Cantwell, 38.7 miles; Knik, 3.5 miles; Knik and Eklutna, 43.8 miles; Eklutna, 30.6 miles; Chickaloon, 27.3 miles.

Source: Alaska Railroad records.

the Eklutna claim nor begun to process other claims. However, Department of the Interior officials in Alaska and Washington, D.C. have indicated a willingness to accept the bulk of the LUPC's recommendations. Selections of railroad land in other village areas are expected to follow the outcome of the Eklutna claims. If the result for all railroad land located in village selection areas follows the LUPC recommendation, the railroad would lose up to 90 percent of its lands located in village selection areas. This could mean the loss of 7,554 acres, or 19.8 percent of the railroad's total land holdings, the loss of 19 million cubic yards of gravel and rock reserves; and the direct loss of $230,000 per year in lease revenue.

Cook Inlet Regional Corporation Selection of Railroad Land

A problem that could affect virtually all railroad lands is the special selection authority of Cook Inlet Region, Incorporated. CIRI considers substantially all railroad land holdings, whether located in Native village selection areas or not, to be eligible for selection. CIRI has formally asked that all railroad lands, except those conveyed to village corporations, be placed into the selection pool that was created by the special statutory authority for CIRI to select lands outside its regional boundaries. To date, CIRI's broad interpretation of the law has not been accepted by the Department of the Interior, which maintains that the CIRI selection pool cannot include railroad lands outside the village selections areas. However, CIRI is expected to challenge the Department of the Interior's view. If CIRI is successful in reversing the Department of the Interior's opinion either administratively or in court, substantially all railroad lands would be subject to CIRI selection. It would then be necessary for the Department of the Interior to make a 3(e) actual-use determination for all railroad lands selected, not just railroad lands located within village selection areas. The narrow standards in the final 3(e) regulations would then be applied to all railroad lands and could result in the loss of virtually all ARR's leased lands, gravel reserves, and other properties along the railbelt.

The Uses of Railroad Lands

The authors feel that the railroad's lands are as essential to its operations as are any of the other ARR assets. They believe that if the ARR is to act as a part of the market economy of the state, it must be capable of exercising some degree of control over the lands with which it is associated. Such control ranges from absolute and perpetual surface control over some of the land to more limited powers over other types of real property.

Lands now under the jurisdiction of the ARR may be categorized as follows:

1. Main line and branch line rights-of-way.
2. Terminals and ports.
3. Lands leased to traffic-producing tenants.
4. Material source lands (for example, gravel deposits).
5. Lands leased to nontraffic-producing tenants.
6. Lands held for future operations and traffic development.
7. Former rights-of-way.
8. Other holdings.

In the authors' opinion, each of these types of land requires specific protection if it is to continue supporting the railroad in its role as a functional participant in the state transport network.

Requiring the most protection are the main line and branch line rights of way. The nature of railroad operations requires that these lands be under complete control of the railroad, including at a minimum the right to:

1. Have complete freedom to add to or delete from the land any structures, roadbeds, adjacent rocks, or gravel or to recontour the land as necessary.
2. Move track within the right-of-way or to add or delete track.
3. Provide loading and unloading facilities for railroad customers or for railroad purposes.
4. Add structures as may be necessary for operation.
5. Remove any vegetation which may be required to operate or expand the railroad's services.
6. Fence the right-of-way.
7. Operate any and all trains necessary.
8. Restrict or grant access to persons or vehicles as it sees fit.
9. Construct and maintain any drainage facilities necessary to preserve the right-of-way.
10. Make any provisions necessary to protect the operational capability of the right-of-way even if this requires access to and control of lands beyond the normal right-of-way limits (e.g., avalanche, flood control).
11. Take such action as may be necessary to safely operate in situations where conflicts with other transport modes may exist.

12. Place all necessary communications and signal devices within the right-of-way or to maintain separate rights-of-way for these items where necessary.

The authors believe that all of these elements must be available to enable the railroad to maintain the property, provide for safe operations, protect the public, meet public regulatory requirements, operate efficiently, and be responsive to economic opportunities and influences. The normal mechanism required to exercise these responsibilities is fee ownership of the property by a railroad. In those relatively unusual circumstances in which a railroad cannot obtain fee ownership, then it occupies a land parcel via a railroad easement. This gives the railroad complete control of all surface rights to the property, including the right to exclude the fee owner from the property and to exercise all of the functions noted above. The usual railroad right-of-way is 100 feet to either side of the center line of the main line. It is very unusual for less than this width of land to be available; however, wider rights-of-way are not uncommon. The Alaska Railroad's enabling legislation specifies a right-of-way width of 200 feet total with a supplement of 50 feet for purposes of operating a communications system where necessary. Terminal or port lands usually have no specific width related to track location. Rather, they are specified in the more traditional types of descriptions used generally in real property.

Lands Providing for Railroad Traffic Development

This category of land is second in importance to that of rights-of-way and terminals. The importance of this category goes beyond the lease income generated by the property to the very essence of railroad traffic and marketing. An analysis of the Alaska Railroad's traffic indicates that only a very small portion of operating revenues are derived from customers whose businesses are not directly adjacent to the railroad's right-of-way.[7] The efficient loading or unloading of carloads requires a customer to have direct access to railroad facilities. This factor is of such importance that it is usually quite difficult to serve a customer who is not directly linked to the railroad. One of the primary tools available to a railroad to solicit this type of traffic is land adjacent to its right-of-way on which a shipper can locate his facilities or store his goods. Thus, the lands available for leasing to traffic-producing customers contribute much to the ability of the railroad to sustain its present operation and to be economically viable. Likewise, those lands which are available for future lease to traffic-producing customers represent the long-term capability of the railroad to continue its existence as an economic enterprise.

In the authors' view, the only mechanism which will permit the railroad to manage these lands effectively is complete control of their use. While there is a clear obligation in ANCSA legislation to honor existing leases whether the landowner is the railroad or another party, the only manner in which a continuing commonality of interest between the railroad and future lease holders can be maintained is by providing ownership of those parcels for the railroad or by requiring any future owner to use them for rail traffic purposes so long as the railroad exists. It is not at all likely that the land development interests of the railroad and a future, non-railroad owner would coincide since land sale or lease for non-railroad purposes would frequently generate much higher income than would typical railroad uses.

Lands, Improvement, and Construction

This category includes those properties from which materials such as gravel and rock are obtained for maintenance and improvement. The authors feel that a railroad must have long-term access to such land as well as a fairly unrestricted right to remove materials as required. These needs are basic to the continuing operation of a railroad, because any railroad's roadbed and track will deteriorate rapidly if not regularly maintained and ballast renewed periodically. This renewal requirement is particularly critical in Alaska where the amount of moisture during spring breakup can, if not controlled, make track unusable within a single year. In addition to regular maintenance, there may be very large short-term demands for rock and gravel to repair damage from floods, avalanches, and earthquakes. The ARR annually requires an estimated 200,000 tons of gravel and 40,000 tons of rock for normal maintenance. In addition to this amount are requirements for emergencies and for track improvements, industry access, and alignment improvements. The latter items result from changing demands of railroad traffic and operation patterns. These are produced by such factors as changes in car types and commodities (such as bulk commodities requiring more substantial track), frequency of operations (more traffic requires more frequent attention regardless of commodity), types of operations (need to improve transit times to attract or keep time-sensitive traffic), or the need to improve operating efficiency (lower maintenance costs or operating costs by realigning track).

Unlike the previous land categories, there is no

[7] See "Traffic Base," page 9.

absolute requirement for ownership of the property if the railroad has the access and extraction rights mentioned previously or has access to commercial gravel. However, without railroad ownership of the materials, the costs of maintenance and improvement will be increased in two ways. One will be the commercial cost of gravel and rock. Having to purchase gravel at the current cost of $13 per ton would cost the ARR a minimum of $2,600,000 annually for normal maintenance. These costs would amount to an additional charge of $1.49 for each revenue ton carried by the Alaska Railroad (in 1980 dollars). In addition to this would be any aggregate demands for emergencies, new construction, or rebuilding. These additional costs would either have to be passed to shippers (and, thus, largely to consumers) by freight rate increases or would have to be supported by a public subsidy. Should increased freight rates be chosen, they will probably make the railroad less competitive and result in higher subsidy demands.

Lands Leased to Nontraffic-Producing Tenants

The lands leased to nontraffic-producing tenants are not necessary to the continued operation of the railroad, except where the lands can be converted to traffic-producing properties either by lease to customers for plant location or by exercise of mineral rights. How much these holdings may assist the railroad in its future operations will largely depend on location in relation to commercial opportunities. Even though the presently leased properties are not essential to the operational survival of the railroad, they do provide a major source of income which permits lower freight rates than might otherwise be the case. Should the railroad lose control of this land, the lost revenue would have to be obtained from other sources—either higher freight rates or public subsidy.

Former Rights-of-Way Land

This final land category is probably important only in terms of the future resource development role that policymakers may wish the railroad to play. Specifically, the railroad currently controls the land of a former right-of-way extending eastward up the Matanuska Valley approximately 30 miles past the Sutton, Eska, and Jonesville coal fields to Chickaloon. This right-of-way provides access to coal resources and will be an essential ingredient in any scheme to export coal from the Matanuska Valley.

According to ARR management, any railroad depends almost entirely upon the way it can use its lands if it is to operate effectively and to market that operation reasonably. Without this ability to utilize lands, any railroad is clearly an unattractive investment. Therefore, without a satisfactory resolution of the current questionable status of Alaska Railroad lands, any potential owner should be hesitant about becoming involved with the railroad. If he should do so without obtaining the types of guarantees specified above, it should be with the clear understanding that this course of action may well lead to a large and continuing drain upon his treasury.

Employee Concerns and Obligations

Present Situation

The Alaska Railroad (ARR) is a federal agency under the Federal Railroad Administration (FRA), U.S. Department of Transportation. Few of the positions held by employees of the Alaska Railroad, the only railroad operated by the federal government, are found in other federal agencies since the majority are unique to railroad operations. The ARR employees, having significant railroad operational experience and knowledge, represent one of the railroad's most valuable assets. In addition, the ARR employees have knowledge of the special railroad operational requirements for Alaska, with its difficult climatic conditions and associated maintenance requirements.

Declining Work Force. After the completion of the pipeline, the Alaska Railroad experienced declining traffic and revenues until the 1981 fiscal year (June 1980). Since that time, significant traffic and revenue increases have occurred despite high interest rates, inflation, and generally poor national economic conditions. In the face of increasing costs and declining revenues and traffic, the Alaska Railroad has annually reduced its work force over the last 5 years. For example, in FY 1976, the railroad employed an average of 1,025 persons, but by April 1981, this workforce totaled only 629 employees, including both permanent and temporary workers.[8]

The following table demonstrates the personnel levels by department in mid-April 1981, according to a railroad manning report (see Table 10).

Organized Labor and the ARR. As regards organized labor for its employees, the Alaska Railroad is similar to private railroads in the continental United States. Unlike private sector railroads, however, most labor agreements with the Alaska Railroad

[8]Because the Alaska Railroad is a federal agency, there is substantially larger lag between the acknowledgment of declining revenue traffic and a reduction in the number of employees than would be experienced in private railroad operations.

Table 10

Authorized vs. Actual Numbers of ARR Employees

Department	Authorized Position	Total Employees	Permanent Employees	Temporary Employees
Administration	95	82	77	5
Transportation	236	218	202	16
Engineering	270	181	137	44
Mechanical	142	138	130	8
Marketing	14	10	9	1
Total	757	629	555	74

are perpetually in effect until either organized labor or the railroad management wishes to open the labor agreements for renegotiation. This factor has interesting long-range implications in view of the potential transfer of the railroad's ownership and operations.

At the present time, five unions represent the Alaska Railroad employees. These are listed in Table 11 along with the number of employees which each represents.

The Full-Crew Law. An additional area of concern regarding employee operating agreements and a change from federal status involves a current Alaska statute, the full crew law—the only one left in the United States. It requires a five-man train crew, including a locomotive fireman, for all trains. Currently, because it is a federal agency, the ARR is exempt from this law and operates its trains on the basis of agreements negotiated with labor organizations. Usually, these require only three- or four-man crews for each train. If Alaska does not repeal this law during the course of any restructuring, it is unlikely that the railroad would ever be a self-supporting operation. If the present full crew law continues in force, the state should be prepared to pay several million dollars annually in subsidy for unnecessary labor.

Thus, the Alaska Railroad's employee situation is more complex than that of other railroads since its employees are generally not only members of various labor unions (similar to other railroads) but are also federal employees with all of the rights and benefits which are afforded participants in the federal government's civil service system. The implications of these double protection rights and benefits for the proposed transfer are far reaching and significant.

Financial Implications

Another significant consideration in the potential transfer of the Alaska Railroad from the federal government to the State of Alaska is the financial implications of employee protection, including federal retirement benefits.

The current employees of the Alaska Railroad have participated in and contributed to the federal Civil Service Retirement and Disability Fund. The Alaska Railroad has matched the contributions made by each employee during their employment to date, and these contributions have been made out of railroad revenues. The federal Civil Service Retirement System is under the jurisdiction of the U.S. Office of Personnel Management.

The Civil Service Retirement and Disability Fund is the accumulation of money held in trust by the U.S. Treasury for the purpose of paying annuity, refund, and death benefits to persons entitled to them. The present Alaska Railroad employees are among the persons entitled to these benefits.

The identified federal commitments which were made by the Alaska Railroad to employees at the time of employment include the total cost of relocation back to the point of recruitment of any employee and family recruited from outside Alaska when they choose to return. Other employee commitments include participation in the Federal Employees Group Life Insurance Program, health insurance benefits, accrued sick and annual leave, credit for time served as federal employees, turnaround trips to the point of recruitment every two years (as distinguished from relocation), and protection against arbitrary dismissal by the Merit Systems Protection Board.

There are many unanswered questions related to the employees and protection of their rights. These questions can best be answered and the problems

Table 11

Labor Organizations Representing ARR Employees

Organization	Employees Represented
American Train Dispatchers Association	20
Brotherhood of Railway Carmen	37
United Transportation Union	127
American Federation of Government Employees*	315
International Association of Machinists and Aerospace Workers	80
Total	579

*The American Federation of Government Employees represents both white- and blue-collar workers.

solved by the federal government since it is their system and not Alaska's which has given the employees their protection. Failure to solve these obligations prior to the transition phase may well lead to lengthy and costly litigation as well as to excessive employee turnover. Thus, careful consideration of these factors as part of the federal transfer legislation would benefit all concerned.

We should also note that several of the existing labor agreements will continue in force until either the labor organizations or the railroad management wishes to open negotiations. It is probably best that these agreements remain in force for a specified time, after which they would be subject to new negotiations. The transfer legislation could provide for such negotiations and establish the framework for setting labor agreements.

In summary, ARR's legal obligations to its employees are extensive, and the federal government is in a much better position than the state to provide them with a proper transitional program. Such a program would protect the employees, the State of Alaska, and the federal government.

Finances

Its status as a federal agency complicates the financial condition of the Alaska Railroad. For example, none of the traditional measures of financial health such as price-earning, debt-equity, or even revenue-expense ratios properly portray the condition of the operation. In addition, the burden of passenger service (about 35 percent of all trains operated in 1980) distorts even the traditional railroad operating efficiency measures which might otherwise be employed. Financial reporting is done by methods and for reasons which differ from private practice and which are not even entirely consistent with federal government standards. Similarly, public sector capital budgeting and justification is not organized or presented using the methods of the rail industry. The differences result both from conflicting management objectives and requirements for management information which are dictated as much by federal control as by the need to manage operations.

The ARR receives operational funds from four primary sources:

1. Revenues earned by transporting freight and passengers.
2. Income from property leased to others.
3. Reimbursable services performed for others.
4. Congressional appropriations for acquiring capital assets and for major maintenance.

This income is all placed into a single revolving fund account with the U.S. Treasury against which the railroad draws to support its day-to-day operations and fund capital expenditures. Income placed in the account remains available until extended by ARR either for operations, capital expenditures, or on work authorized by appropriation.

While the revenue from the railroad's own operations is largely independent of external control,[9] those resources obtained by Congressional appropriation are subject to many of the same restraints common to the budgets of all federal agencies. These requirements dictate a budgetary process which may have both revenue-based funding and appropriated funding used for similar purposes, while justification for their use may be quite different. The justification for appropriated funding is similar to that seen for other agencies which seek money to maintain the existing property and operations and to comply with federal guidelines. This is somewhat different from the approach used on most private rail systems where budgets are developed and justified on the basis of the profitability of operations and the investments being funded.

With this background, let us look in more detail at the railroad's financial situation. This analysis will deal with the *financial statements, revenues and expenses, assets and liabilities, and capital budgets.* We will review both the information available from this material and its limitations. In addition, where possible, we will explain the future implications of these items.

Reporting Financial Information

The Alaska Railroad prepares three public financial documents. One of these, the *capital budget and appropriation request,* will be dealt with in another part of this section. The other two are the *annual report* and the *monthly financial statements.* While both provide useful information, they are limited in scope when compared to similar documents prepared by private railroads.

Annual Reports. The annual reports are prepared following the end of each federal fiscal year (September 30). They summarize the previous year's financial performances and contain a limited amount of operational data as well as a narrative outline of the previous year's events. The financial information includes a brief income statement, balance sheet, and

[9]The only restraint upon expenditures of these revenues is that they must be used for a function authorized the railroad in its enabling legislation, as amended.

a statement of changes in financial position. None of these are entirely consistent with private practice in stockholder reports, principally due to the federal status. The differences are most clearly apparent in the balance sheet where liabilities include only a limited number of current items and neither long-term liabilities nor stockholders' equity. The long-term liabilities do not exist since the railroad is debt free and need not provide for taxes. Substituted for stockholder's equity is an item termed "Proprietary Interest of the United States Government," which is the sum of all federal appropriations plus retained earning from operations.

The income statement varies from that of private practice in that it does not account for fixed charges other than depreciation. It is important to note that the ARR, as is common with most railroads, does not capitalize and depreciate its track structure. Rather, it uses the practice known as betterment accounting, which charges any replacement material regardless of the amount of expenditure, to current maintenance expenses and capitalizes only the improvements. While the result of this practice for a private railroad is to present the financial status in a more conservative light, the effect on the Alaska Railroad is slightly different. Because the ARR seeks federal appropriations to perform some major track maintenance (which becomes part of the proprietary interest), this work is effectively capitalized (whether it involves replacements or improvements) and is then not depreciated. Effectively, this practice tends to understate the long-term capital requirements to maintain an adequate track structure while at the same time, it overstates current maintenance expenditures.

Table 12 shows the changes in fixed asset values which have taken place in the 1976-1981 period. The increase is due primarily to additions to equipment (mostly fifteen new locomotives) and to structures.

A difficulty on the asset side of the balance sheet involves establishing the value of assets. It should be remembered that a considerable portion of the ARR properties were transferred from other federal agencies, often at a cost of only transport charges or salvage value. The entire line from Whittier to Portage is in this category. To what extent this type of accounting for the assets understates their true value is not certain. For present day-to-day operational purposes, it is not of great importance except that it understates the depreciation charges and thus the capital reserve requirements. Any restructuring will necessitate the identification of appropriate asset values for rate-making and other purposes.

Table 12

End of Fiscal Year Fixed Assets
($ in millions)

	Date					
	9/81	9/80	9/79	9/78	9/77	9/76
Land*	.27	.27	.62	.43	.27	.27
Buildings	12.32	12.36	12.39	12.15	11.96	11.51
Other Structures & Facilities	112.13	111.69	110.69	108.83	107.63	107.20
Equipment	45.84	44.03	41.33	40.93	40.93	36.36
Nonoperating Property	1.88	2.99	3.93	3.54	3.54	3.44
Total Fixed Assets	172.44	171.34	168.96	165.88	164.33	159.28

*Only purchased lands are included in this statement. See Table 9 for values of all lands.

Source: Alaska Railroad Financial Statements.

The lands controlled by the railroad are also not included in assets, except for those directly purchased by the ARR, because most of the land was transferred to the railroad at no cost by executive order or public land order.

Monthly Financial Statements. The monthly financial statements are much more detailed than the annual reports. They provide both an income statement and a balance sheet in the same format as the annual report. However, each line item is further broken down into relevant details. Conceptually, the same limitations apply to these statements as to the annual reports. This investigation, however, discovered an additional serious limitation: the inability to isolate passenger- from freight-service costs. While revenues are separately reported, costs are separated in only a few categories. Those that are recognized appear to be only a few of the short-term, out-of-pocket costs. This clearly does not reflect the full, direct cost of providing the passenger service, which constitutes 30 to 40 percent of all train miles operated. Because of the importance of this function of the ARR, we allocated the costs left unassigned by the financial statements and present them later in this section.

Another important difference between the ARR and normal industry reporting occurs in the area of operational statistics, which allow the analyst to prepare efficiency measurements. While the annual report contains limited data on operations, the financial statements have none. Those in the annual report are not equivalent to those required of private railroads in their annual reports to the ICC or even to

many of those prepared for stockholders. This area represents an important deficiency in the ARR's public reports.

With these explanations in mind, it is appropriate to look at the financial performance of the Alaska Railroad during the past several years.

Financial Performance

The Alaska Railroad has experienced rather varied financial circumstances over the past decade. It experienced some of its best years during 1975 and 1976 and some of its worst in 1979 and 1980. The ARR's cyclic performance during these years is representative of the entire financial and operational history of the railroad. It also indicates the sensitivity of the railroad's financial performance to traffic changes which would be considered minor on most railroads.

Table 13 summarizes the income and expense performance between October 1975 and September 1981. As can be seen, revenues had fallen by 1979 to half their 1976 level; expenses stabilized after 1977 and remained so through 1980. This indicates the sensitivity of the profit or loss to changes in revenue rather than to cost factors. This is a basic fact for all light-density railroads; they must operate at certain minimum levels if they are to handle available traffic and maintain certain operable levels. That is what has occurred on the Alaska Railroad. To retain traffic, it has had to maintain and operate the property at a certain level. However, it would cost only marginally more to operate at a considerably higher level, generating much more revenue. The 1981 results further illustrate this problem. As noted below, the composition of costs and revenues provides significant insight into the various cost factors.

Table 13

Revenues and Expenses
($ in millions)

	FY 81	FY 80	FY 79	FY 78	FY 77	FY 76
REVENUE						
Operating	$40.78	$26.74	$23.08	$27.44	$33.38	$46.06
Nonoperating	3.16	2.13	2.08	1.65	1.65	1.15
Total	43.94	28.89	25.16	29.09	35.03	47.21
EXPENSES						
Operating	40.36	34.38	31.28	33.30	35.70	49.67
Nonoperating	.27	.34	.21	.21	.25	.18
Total	40.63	34.72	31.49	33.51	35.95	49.85
Gain (loss)	3.31	(5.83)	(6.33)	(4.42)	(.92)	(2.64)
Depreciation Included in Expenses	3.27	3.53	3.22	3.20	3.12	2.61
Cash Gain (loss)	6.58	(2.30)	(3.11)	(1.22)	2.20	(.03)

Source: Alaska Railroad Financial Statements.

Table 14

1978 Revenues and Expenses
($ in millions)

	Freight	Passenger	Other	Total
Revenue-Total	$23.69	$1.50	$3.77	$28.96
Operating	23.69	1.50	2.12	27.31
Nonoperating			1.65	1.65
Cash Expense	21.99	6.35	1.98	30.32
Engineering	4.24	0.64		4.88
Mechanical	5.29	1.28		6.57
Transportation	9.30	2.95		12.25
Traffic	0.29	0.13		0.42
Communications	0.30	0.14		0.44
Administration	2.57	1.21		3.78
Other Operating			1.86	1.86
Nonoperating			0.12	0.12
Depreciation	2.81	0.26	0.12	3.19
Total Expense	24.80	6.61	2.10	33.51
Gain (Loss) Before Depreciation	1.70	(4.85)	1.79	(1.36)
Fully Allocated Gain (Loss)	(1.11)	(5.11)	1.67	(4.55)

Sources: Alaska Railroad Financial Statements and Annual Report recomputed using ICC cost allocation methods.

Tables 14, 15, and 16 provide a more detailed analysis of 1978, 1979, and 1980 revenues and expenses distributed to freight and passenger service and to other activities. It is important to note that the method used by this analysis develops fully allocated costs.[10] That is, the method allocates both the direct, short-term, out-of-pocket costs and the various types of joint costs and overhead to the appropriate service. This estimates the resources used to supervise the passenger trains' operation and maintenance, to market and administer them, to provide the incremental track maintenance required by them, to service and supply them, and to control their activities. It should be realized that if the passenger trains were eliminated, many of these joint and common costs would remain. However, over the long term, it would be possible to eliminate them

[10]Where the financial statements provided specific cost breakouts (such as passenger or freight car maintenance), these were used directly rather than being allocated.

Table 15

1979 Revenues and Expenses
($ in millions)

	Freight	Passenger	Other	Total
Revenue-Total	$19.08	$1.96	$4.11	$25.15
Operating	19.08	1.96	2.03	23.07
Nonoperating			2.08	2.08
Cash Expense	20.10	6.17	2.00	28.27
Engineering	3.35	0.59		3.94
Mechanical	4.77	1.15		5.92
Transportation	8.86	2.89		11.75
Traffic	0.31	0.16		0.47
Communications	0.25	0.13		0.38
Administration	2.56	1.25		3.81
Other Operating			1.91	1.91
Nonoperating			0.09	0.09
Depreciation	2.82	0.25	0.15	3.22
Total Expense	22.92	6.42	2.15	31.49
Gain (Loss) Before Depreciation	(1.02)	(4.21)	2.11	(3.12)
Fully Allocated Gain (Loss)	(3.84)	(4.46)	1.96	(6.34)

Sources: Alaska Railroad Financial Statements and Annual Report recomputed using ICC cost allocation methods.

or to divert the resources they represent to more productive uses.[11]

The analysis indicates that the nonrail activities have consistently shown a positive net income. The freight service has shown a positive cash flow (net income before deduction of depreciation) in 1978 and 1980, but 1979 indicates a $1.02 million cash loss. For the 3 years, the total cash gain on freight operations was $2.48 million. While this is not sufficient to cover all depreciation charges, it does represent an impressive performance, particularly when considered in relation to the weak Alaska economy during this period. With freight and other activities combined, the cash flow is positive for all 3 years, and total net income is positive (or zero) in 1978 and 1980. This leaves the passenger service as the principal source of the substantial losses shown in the annual reports. Such a result is consistent with the problems experienced by other North American railroads during the past 30 years.

[11]Where ARR accounting records did not specifically allocate costs to either freight or passenger service, they were so allocated using methods prescribed by the Interstate Commerce Commission to the extent that the required operating statistics were available. See Code of Federal Regulations, Title 49, Part 1242.

There are two possible causes for the passenger service's poor financial situation: excessive expenses or inadequate revenues. An examination of the various expense categories indicates that they are not excessive considering the substantial proportion of the operations represented by passenger service. Given the nature of passenger train operations, this is in fact a substantial compliment to the ARR management. This result is confirmed by comparing the ARR passenger service to that of the Denver and Rio Grande Western (D&RGW) passenger service for comparable periods. During 1978 to 1980, approximately the same number of passenger train miles were operated by both railroads. Expenses were also comparable; however, the D&RGW revenues were 50 percent to 100 percent greater, resulting in a significantly smaller loss attributed to passenger service. ARR revenues, on the other hand, were not large enough to be comparable to the proportion of total operations represented by passenger service.

A more detailed discussion of the passenger problem is contained in the following section (Competitive and Regulatory Environment). It appears, however, that it would be impossible to generate enough passenger traffic to make the net income from passenger operations positive. This is the basis of a substantial long-term public policy question. It

Table 16

1980 Revenues and Expenses
($ in millions)

	Freight	Passenger	Other	Total
Revenue-Total	$22.72	$2.09	$4.08	$28.89
Operating	22.72	2.09	1.92	26.73
Nonoperating			2.16	2.16
Cash Expense	20.92	7.60	2.67	31.19
Engineering	3.20	0.59		3.79
Mechanical	5.27	1.59		6.86
Transportation	9.34	3.58		12.92
Traffic	0.33	0.20		0.53
Communications	0.25	0.15		0.40
Administration	2.53	1.49		4.02
Other Operating			2.42	2.42
Nonoperating			0.25	0.25
Depreciation	3.08	0.32	0.13	3.53
Total Expense	24.00	7.92	2.80	34.72
Gain (Loss) Before Depreciation	1.80	(5.51)	1.41	(2.30)
Fully Allocated Gain (Loss)	(1.28)	(5.83)	1.28	(5.83)

Sources: Alaska Railroad Financial Statements and Annual Report recomputed using ICC cost allocation methods.

is also important to realize that, except for a modest depreciation charge against passenger service, this analysis has not included any capital costs.

Since it appears that freight service is a fairly stable income source even in economically depressed years, it is useful to examine the effects of adding a major additional long-term movement. For purposes of this discussion, it is assumed that the recently announced pending coal movement from Healy to Seward for export saw its initial operation in 1980. The revised income statement is shown in Table 17 based on the proposed 800,000 metric tons moving at a rate of $10.10 per ton. Operation expenses are based on data supplied by ARR, and depreciation costs are computed at current rates based on the assumption that all new equipment is used for the movement. For this analysis, only freight and other activities are considered. The changes in performance due to this single movement are considerable. An overall net income of $0 becomes a positive $1.82 million, and total cash generated goes from $3.21 million to $5.37 million. This clearly indicates both the dependence of a light-density railroad on single movements and, more importantly, the positive effects of a substantial traffic source with long-term prospects.

Thus, the overall indication is of a property that has undergone substantial financial changes over the past 5 years. Although it has seen serious diminution in the volume and ton-miles of available freight traffic, there has been sufficient control of costs to maintain an overall positive cash flow each year after the passenger service is deducted from the results. A high-revenue, moderate-cost movement such as that proposed for coal could add stability to the performance.

Table 17

1980 Financial Performance with Potential Coal Traffic

800,000 Metric Tons = 881,600 Short Tons ($ in millions)

	Freight	Other	Total
Without Coal			
Revenue	$22.72	$4.08	$26.80
Operating	22.72	1.92	24.64
Nonoperating		2.16	2.16
Cash Expense	20.92	2.67	23.59
Operating	20.92	2.42	23.34
Nonoperating		0.25	0.25
Depreciation	3.08	0.13	3.21
Total Expense	24.00	2.80	26.80
Gain (Loss) Before Depreciation	1.80	1.41	3.21
Fully Allocated Gain (Loss)	(1.28)	1.28	0.00
With Coal			
Revenue	31.62	4.08	35.70
Operating	31.62	1.92	33.54
Nonoperating		2.16	2.16
Cash Expense	27.66	2.67	30.33
Operating	27.66	2.42	30.08
Nonoperating		0.25	0.25
Depreciation	3.42	0.13	3.21
Total Expense	31.08	2.80	33.88
Gain (Loss) Before Depreciation	3.96	1.41	5.37
Fully Allocated Gain (Loss)	0.54	1.28	1.82

Source: Table 16 and Alaska Railroad records.

Capital Budgets

Unlike private railroads, the Alaska Railroad does not have access to capital markets. It cannot borrow funds for equipment and cannot mortgage its property to generate capital. These factors mean that the only methods of obtaining funds for capital improvements are through internal generation (either depreciation charges or financial surplus) or federal appropriation. It also means that it must have sufficient capital to pay cash for improvements.[12]

Table 18 lists the capital and major maintenance expenses between July 1975 and September 1980 along with the source of funds. Clearly, about 75 percent of the funding came from appropriations rather than from earnings. As noted in the previous section, it appears that the principal reason for this is the negative impact of passenger service on income. It also indicates that without passenger service, the ARR would have produced $7.79 million internal capital between 1978 and 1980 instead of the $1.2 million actually available. This would have reduced the necessary appropriation from $17.3 million to $9.51 million, even assuming that no money had been retained from earlier, more prosperous years. Clearly, the recognition of passenger service as a public good requiring public support could have a major impact upon the railroad's capital budget flexibility.

[12]The usual method used by private railroads to purchase rail equipment is through the "Philadelphia Plan," in which the down payment is 20 percent of purchase price, with the balance paid over 15 years. Because rail equipment offers excellent security, the interest rates are usually substantially below the prime rate.

Table 18

Capital and Major Maintenance Programs
($ in millions)

Use	1980	1979	1978	1977	1976[a]	Total
Buildings	$0.2	$0.1	$0.1	$0.1	$0.5	$1.0
Roadbed, Track, Structures	3.3	2.2	2.8	3.9	4.2	16.4
Equipment	1.8	0.7	0.3	4.5	12.6	19.9
Other Projects	0.2	6.4[b]	0.4	0.3	0.5	7.8
Total	5.5	9.4	3.6	8.8	17.8	45.1
Fund Source:						
Appropriations	5.0	9.3	3.0	6.0	9.0	32.3
Railroad Earnings	0.5	0.1	0.6	2.8	8.8	12.5

[a]1976 was a 15-month fiscal year.

[b]$6.3 million for repairs to Seward and Whittier docks.

Source: Alaska Railroad 1980 Annual Report.

It is in capital budgeting that the Alaska Railroad differs the most financially from private operations. This difference results from, and is evident in, several features of the budget, including the distribution among expenditure types, the budget process and line item justifications, and the types of programs included in the budget. As noted earlier, many of the budgeting objectives, fund sources, and utilization capabilities differ. These variations are reflected in the documents themselves.

The budget tends to be heavily weighted toward improving facilities and light equipment rather than purchasing rolling stock. In private industry, the reverse tends to be true. There are three reasons for the difference. One is the ease with which private industry can finance equipment. This ease permits a relatively modest cash flow to leverage substantial amounts of equipment purchases, particularly when used in conjunction with reasonable interest rates and tax advantages related to interest, investment tax credits, and accelerated depreciation. Obviously, the ARR cannot take advantage of any of these. A second reason that equipment expenditures receive less emphasis, particularly in marginal years, is that individual items are so expensive. A locomotive costs $750,000 to $900,000, while cars run $40,000 to $50,000 each. Thus, if an ARR budget is cut by FRA, OMB, or the Congress, an event which occurs regularly, it is easier to reduce the size of track programs than equipment purchases, since the former tends to comprise a large number of smaller items and personnel requirements. With track or structure programs, at least some of the improvement can usually be made, but an equipment acquisition program must often be written off entirely even if a portion of the funding is not approved. A third reason for these budget priorities is that it is easier to repair older equipment and to keep it operating than it is to operate over track which has not been properly maintained. Ultimately, the differences in budget priorities provide for physical facilities maintenance in the manner of most federal agencies, but they do not necessarily respond to marketplace influences.

The next difference between ARR's budget and those of private capital arises in the budget development process and the basis for project selection and justification. On private railroads, the projects for a capital improvement plan are developed on the basis of either rate of return or net present value of the proposal. The ability to contribute to the profitability (usually long term) of the organization is the primary criteria of selection. On the Alaska Railroad, this does not appear to be strictly the case. ARR budgeting documents must conform to U.S. Department of Transportation requirements. These requirements rarely reflect a need to operate profitably. Thus, the justification for projects in the ARR budget is almost inevitably based on cost minimization criteria or satisfaction of federal requirements. While cost minimization is an important part of developing an efficient operation, it may or may not reflect the most profitable use of resources. Such an approach also fails to consider the opportunity costs of alternative uses of capital. Between the 1978 and 1982 budget requests, that of 1979 was the only one which contained a cost-benefit analysis and a computation of internal rate-of-return for individual projects. In no case was there an attempt to estimate overall returns for groups of projects. These overall numbers may be considerably different from the sum of individual returns due to various project interdependencies and timings. It should be emphasized that the majority of these problems result from the requirement that the ARR follow federal budgeting procedures rather than allowing its management to develop programs, as much as possible, on the same basis as private firms.

The final difference between ARR and private budgeting practices is the type of projects incorporated into the capital budget. The ARR's budget includes both strict capital items and major maintenance, which would be part of ordinary expenses under ICC accounting rules and within most private organizations. This causes the income requirements to be understated. This problem is exacerbated by

the use of betterment accounting for track structure as explained earlier. The proportion of the budget which is actually devoted to maintenance rather than to capital expenditures is difficult to estimate from available data. However, the FY 1982 budget, at the minimum level, lists such items as cross-tie replacement, track surfacing, vegetation control, equipment repair and refurbishing, and building repair, none of which appear to be normal capital items. Once again, the requirement to conform with federal budgeting (this time coupled with railroad betterment accounting) distorts the financial picture of the railroad.

The final capital budgeting item which requires review is the question of deferred maintenance. ARR defines deferred maintenance as:

> "... the accumulated maintenance that would have to be performed in order to bring the physical plant up to the material condition and capacity considered necessary to accommodate the level of freight and passenger traffic expected."

In 1977, the ARR estimated deferred maintenance at $58.9 million, with this increasing to $63 million by 1980. Of the 1977 total, $38.7 million was considered to be delayed capital expenditures.[13] Table 19 shows the breakdown of the 1977 total by functional area. It is important to realize that these areas do not represent items which make it unsafe or difficult to operate the railroad. These are items which should be programmed projects but have had implementation delayed. It is not unusual practice in the rail industry to adopt this strategy when revenues are not at an adequate level. Since much of the programming is on a cyclical basis and the items are long-term assets, the practice becomes critical only when it is continued over an extended period. It is also possible to "trade" capital expenditures in exchange for higher current maintenance expenditures. Both are part of the situation at the ARR. This is particularly true for the roadbed and track category where many of the charges are for subgrade which should be upgraded to eliminate future maintenance demand. However, the principal result of not performing the work will be higher current costs, not unsafe conditions or major operational problems. This is the nature of many of ARR's problems, particularly the delayed capital expenditures, although a good deal of the tie renewal appears to be true deferred maintenance.

Thus, it appears that while deferred maintenance may become a long-term difficulty if there is a very large traffic increase (more than the currently projected coal traffic), it does not seem to be a major current problem. The solution of the problem remains difficult to project until the type of financial structure under which this railroad will be operating can be determined. If structured correctly, the projected organization may provide considerable potential to address the problem, certainly more than the present federal structure.

Table 19

Deferred Maintenance by Functional Area
($ in millions)

Rail Relay	$ 7.8
Tie Renewal	7.5
Other Roadbed and Track	15.7
Tunnels	1.7
Bridges	4.3
Buildings	4.9
Other Fixed Facilities	15.7
Communications	0.9
Equipment	0.4
Total	58.9

Source: Alaska Railroad FY 1982 Budget Submittal Documentation.

Competitive and Regulatory Environment

The Alaska Railroad both competes and cooperates with Alaska motor carriers and, through its barge connections, with marine carriers operating between Alaska and the United States. Because the local freight carried by ARR is unsuitable for road haulage due to its bulk, the railroad is relatively free from local competition. The exceptions to this are some petroleum products movement and the local TOFC/COFC service between Anchorage and Fairbanks, which amounts to less than 10 percent of the total traffic between these two points.

However, there are numerous examples of local tariffs which represent cooperative arrangements. In fact, the Anchorage-Fairbanks TOFC/COFC represents one such tariff, while others include grain between Delta and rail points, pipe from Seward or Anchorage to Prudhoe Bay, cement from Anchorage to interior points, and petroleum products between a variety of places. Table 20 lists several Alaska Railroad tariffs which include through rates involving both the Alaska Railroad and motor carriers. Motor carriers also provide drayage services in Anchorage

[13] Once again, the effect of betterment accounting for track is to increase the apparent level of deferred maintenance. Actually, many track-related deferred-maintenance items are delayed capital expenditures.

Table 20

Alaska Railroad Tariffs Involving Joint Rail-Motor Rates

Tariff	Between	Contents
3065-C	Prince Rupert, B.C., and Ak.	Water/rail/motor rates
3095-A	Washington & British Columbia and Alaska	Water/rail/motor rates
3101-K	British Columbia, Idaho, Montana, Oregon, Washington, Wyoming, and Alaska	Rail/water/rail/motor rates
3016-J	Alaska Points	Rail/motor and motor/rail rate.

Source: Alaska Railroad Tariffs 3065-C, 3095-A, 3101-K, 3016-J.

and Fairbanks for the railroad. Table 21 provides a partial list of motor carriers involved in joint arrangements.

It is the interline traffic which brings the railroad into the most direct competition with private carriers. However, even here, ARR is functioning in cooperation with other private firms. The nature of the commodities moved makes the interline traffic more competitive than the local.[14] The marine competitors in this service are Sea-Land Service and Totem Ocean Trailer Express, who operate container ships and roll-on-roll-off trailer ships, respectively, between Puget Sound ports and Anchorage. Both also have through tariff arrangements with motor carriers, as well as with the railroad.

The importance of this traffic is in the volumes available and its high value. The total container, trailer, and railcar traffic through Anchorage and Whittier is presently about 1,350,000 tons annually. Of this, the railroad hauls about 250,000 tons. Some of this is not subject to alternate routings (like heavy machinery, many chemicals, heavy structural shapes); however, most could move by any carrier.

The shipper's choice of carrier is usually based on a combination of price and service characteristics depending on value of cargo and delivery requirements. The most recent innovation used to influence market share was the introduction of contract rates by the railroad. These require the shipper to provide a certain minimum number of carloads in exchange for certain long-term rate maximums and service guarantees. This type of rate was authorized by federal legislation in 1976 and has begun to gain fairly wide acceptance nationally only in the last 2 years. It has created considerable controversy in Alaska, principally because of its success. It has also been the subject of court action and a congressionally mandated ICC investigation to determine whether the prices in the railroad's contracts are in conformance with statuatory requirements. Preliminary results indicate that the rates exceed the minimum levels allowed by law and are well below maximum allowable levels.[15]

It is the Interstate Commerce Commission which is responsible for regulation of the economic relations of the various Alaska motor, rail, and water carriers. Executive Order 11107 of April 25, 1963, placed the Alaska Railroad partially under the jurisdiction of the ICC for rate-setting purposes. There were two exceptions which have created difficulties in the railroad's relationship with its competitors, both in terms of marketing and in rate making. These two sections provided that:

1. "The Secretary . . . shall allocate . . . a proper portion of the capital investment of the railroad . . . to the national public purposes for which it had originally been built." (This part of the railroad's valuation was to be excluded from the costs on which rates were based.)
2. " . . . Rates and charges shall not be deemed to be unjust or unreasonable by reason of failure to yield sufficient revenues to cover any amounts for taxes not actually required by law to be paid or provide a return on capital investment."

Effectively these two provisions allowed the railroad to retain most of its rate-making freedom. This situation remained basically unchanged until 1980 when passage of the Staggers Rail Act (and the subsequent appropriation bill) mandated an investi-

[14] See "Traffic Base," pages 9-11 for a description of the competitive commodity types.

[15] It should also be noted that the ICC investigation has, for the first time, included a cost of capital for the federal investment in the railroad as a part of the basis for determining the legality of rates.

Table 21

Motor Carriers Involved in Through Tariffs with the Alaska Railroad

Alaska West Express, Inc.
Big State Motor Freight, Inc.
Drilling Mud Haulers
Four Star Terminals, Inc.
Frontier Transportation Company
K & W Trucking Company, Inc.
Kodiak Oilfield Haulers, Inc.
Mukluk Freight Line, Inc.
Sourdough Express, Inc.
Weaver Brothers, Inc.

Source: Alaska Railroad Tariffs 3095-A and 3016-J.

gation of the Alaska Railroad's rail-water rates (the competitive interline movements) to determine whether they were in conformance with the provisions of the act. This represented a substantial change in policy, since the Staggers Act contains very specific provisions regarding the allowable cost basis for rates. The statutory language of the Act makes it clear that the railroad is expected to meet these cost-based tariff requirements, which now form much of the basis for the interline rate making.[16]

Provisions of the Staggers Rail Act provide the basis for marketing and management of rail service delivery. They provide for a good deal of latitude in implementation; however, they do require that economic efficiency be a basic consideration in developing any service and pricing package. They also place a number of restrictions on the relationships between carriers.

Establishing a clear set of pricing rules for the Alaska Railroad is probably the most important function of the new regulatory legislation and the subsequent ICC investigation. These rules define an area of marketing flexibility not previously available. These statutory bounds for pricing also allow the railroad to compete more freely, and they protect its competitors from predatory pricing. However, it is important that they be applied as outlined in the statute if they are to be effectively implemented. Artificial restrictions on the ARR do not appear to be in the best interests of either the state, the ARR's competitors, or the railroad. If Alaska is to develop a financially viable transport system, all participants must become active competitors rather than relying on artificial constraints.

[16]The Staggers Rail Act of 1980 was enacted following a long period of dissatisfaction with results of ICC regulatory activity and its effect on the financial viability of the rail industry. It had been preceded 3 months earlier by the Motor Carrier Act of 1980 which withdrew most of the economic regulations applicable to the trucking industry. The goals of the rail act were:

1. "To assist the railroads of the nation in rehabilitating the rail system in order to meet the demands of interstate commerce and the national defense.
2. To reform federal regulatory policy so as to preserve a safe, adequate, economical, efficient, and financially stable rail system.
3. To assist the rail system to remain viable in the private section of the economy.
4. To provide a regulatory process that balances the needs of carriers, shippers, and the public.
5. To assist in the rehabilitation and financing of the rail system."

The regulatory environment of the Staggers Act provides a setting for both the competitive and cooperative arrangements between the Alaska Railroad and other carriers. The whole regulatory structure is still in the implementation stage, and the precise application procedure for the new system is not yet known with any degree of certainty. However, it is certain that the new regulations, if imaginatively applied by management, will provide the railroad with considerable opportunity to improve its profitability while simultaneously forcing improvement in the quality of management data and its use. They provide a basic framework for establishing the Alaska Railroad as an integral competitive segment of the state's transport system.

Passenger Service

The Alaska Railroad provides regular scheduled passenger service and special passenger trains. There are two distinct parts of the scheduled passenger service: the long-distance service between Anchorage and Fairbanks and the specialized shuttle service between Portage and Whittier.

The Anchorage-Fairbanks service includes express trains daily in each direction with stops only at Talkeetna and Denali Park during the summer tourist months (May-September). In addition, there are three local mixed trains (passenger and freight cars) per week during the summer. The local trains stop as necessary for passengers along the route and permit hunters, fishermen, and hikers to reach parts of Alaska inaccessible by road. The mixed trains are limited by union agreements to a maximum of twenty-five freight cars per train unless granted a special exemption. The express trains operate with coaches, a dining car, a lounge car, a dome car, and a baggage car for checked luggage. In the winter, there is mixed train passenger service once per week. Mixed trains in both summer and winter have coaches and a diner for passenger service. The summer trains represent one of the most salable tourist attractions in Southcentral and Interior Alaska.

Additional passenger service is offered by the Alaska Railroad in the form of a shuttle train between Portage and Whittier, a distance of 12.4 miles. The train moves autos, trucks, buses, (with passengers allowed to remain in their vehicles) on special quick-loading flat cars and also carries passengers in coaches for the 35-minute trip, which includes three-and-one-half miles of tunnels.

This shuttle train provides access to the state ferry service between Whittier and Valdez and access for the private and commercial boat owners who moor their craft at Whittier. The railroad is the only

means of overland transportation to and from Whittier. The equipment originates out of Anchorage and returns to Anchorage each night. The shuttle train from Portage to Whittier provides a summer schedule of three round trips three days per week, four round trips two days per week, and two round trips on the remaining two days of the week. In the winter, the shuttle makes two round trips between Portage and Whittier on Sunday, Wednesday, and Friday, returning to Anchorage each night.

Table 22 indicates the total numbers of passengers carried by the Alaska Railroad during the ten fiscal years from 1971 to 1980. Passenger traffic has been increasing annually since 1975. There were about 154,000 passengers carried in 1953, making it the highest year in passenger service on the railroad. The passengers carried in 1979 reached the second highest level (151,045) followed in 1980 by almost as many (150,678).

Table 22

Alaska Railroad Passengers Carried
FY 1971-1980

Fiscal Year	Passengers
1971	94,000
1972	102,000
1973	74,000
1974	84,000
1975	81,000
1976	84,500
1977	103,632
1978	126,277
1979	151,045
1980	150,678

Source: Alaska Railroad records.

Table 23 shows the passenger service in the last 2 years. While the Anchorage-Fairbanks run suffered a traffic loss, there was a substantial gain on both the Portage-Whittier shuttle and special trains. The railroad operates excursion train services for special events such as the Alaska State Fair in Palmer and scenic trips to Seward.

It is important for the State of Alaska and the railroad to focus on the purpose and function of the passenger service. The State has already provided financial subsidy to assist in meeting some of its operational deficit and in providing improved shuttle service. The passenger equipment now in service is old and will soon have to be substantially rehabilitated to compete in the marketplace. The passenger cars are, in general, well-maintained, but are now in need of modernization, including installation of all-electric heating and air conditioning. The interiors have not been refurbished except for upholstery. According to a memorandum by AMTRAK evaluating the Alaska Railroad passenger service, dated November 21, 1979, the estimated cost to rehabilitate passenger equipment would be about $6 million. The railroad, in the next few years, can keep sufficient equipment in service, particularly with the recent acquisition of eight long-distance coaches from the Southern Railway. In the long term, however, the form, style, and mechanical aspects of passenger train service in Alaska must be re-evaluated.

Table 23

Alaska Railroad Passenger Service
FY 1979–1980

Service	FY 1980	FY 1979	Percent Change
Anchorage-Denali Park-Fairbanks	54,165	61,207	−11.5%
Anchorage-Portage-Whittier (Shuttle)	87,357	84,730	+ 3.1
Specials	9,156	5,108	+79.2
Total	150,678	151,045	− 0.2%

Source: Alaska Railroad Annual Reports.

It should be clear from previous portions of this report that if the State of Alaska is to have passenger train service on the Alaska Railroad, it will require a substantial public operational and capital subsidy. The freight and other revenues of the railroad have, in the past, been used as a subsidy supplement to the passenger revenue. This is known as "cross-subsidy"—taking freight income to pay for passenger operating expenses. However, the authors feel that such cross subsidization is not in the best interest of the ARR, if the railroad is to function efficiently as a business enterprise within the state's total transportation system.

In the "Finances" section of this report, we attempted to ascertain more accurately the revenue and expenses of freight and passenger service (page 20). Our analysis indicated that the cost of passenger service is reasonable when comparing the number of passenger trains operated to the total number of trains. Therefore, the operational costs for passenger service appear to be appropriate. The problem is that there are simply an insufficient number of passengers to pay operational costs. Raising fares to provide revenue equal to such operational costs would reduce the number of passengers served, leading to a continu-

ation of the deficit.

Revenue and expenses have been allocated between passenger and other categories. The results of these allocations may be found in Table 24. In each of the past 3 years, passenger service has shown a substantial loss while freight and other railroad services have shown a gain. This is true even in the light of unfavorable economic conditions and low traffic volumes during these years. The financial losses in passenger service have been sufficient to cause the Alaska Railroad to have an overall loss. Thus, cross-subsidization of passenger service by freight service clearly is detrimental to the railroad. The subsidy required for each passenger carried was as follows: 1978—$38.41; 1979—$27.87, 1980—$36.57.

It should also be noted that in this analysis the passenger service received credit for revenue from the vehicles as well as the passengers hauled on the Portage-Whittier shuttle service and for mail and baggage revenues.

Table 24

Alaska Railroad Revenue and Expenses
FY 1978–1980
($ in millions)

	FY 1978	FY 1979	FY 1980
Passengers			
Revenue	$1.50	$1.96	$2.09
Cash Expenses	6.35	6.17	7.60
Gain (Loss)	(4.85)	(4.21)	(5.51)
Freight and Other			
Revenue	27.46	23.19	26.80
Cash Expenses	23.97	22.10	23.59
Gain (Loss)	3.49	1.09	3.21

Note: Depreciation is not included but may be found elsewhere in the report.

Sources: Alaska Railroad reports; Interstate Commerce Commission Investigation; computed by Institute of Social and Economic Research, University of Alaska, and Bivens and Associates, Inc.

Passenger service is important to Alaska, it is a service that can and should be provided by the ARR. However, the interests of the railroad and the state would best be served if passenger and freight service were separated both operationally and by cost accounting. In that way, passenger service would still be provided as required and requested, but with the understanding that the service requires public subsidy.

RESTRUCTURING ALTERNATIVES

Congress may soon pass legislation for the transfer of the Alaska Railroad from the Federal Railroad Administration, U.S. Department of Transportation, to the State of Alaska. Before such a transfer can take place, the State of Alaska must determine the organizational structure it will use to own and operate the railroad. This organizational structure will most probably become the basis for state legislation.

A potential approach to the state's ownership and operation of the ARR in the period of transition is discussed on pages 34 and 35 of this report ("Alaska Railroad Transition"). The purpose of this section is to describe various organizational alternatives for the state to consider before it selects the most appropriate organization for the Alaska Railroad.

Existing Organizational Limitations

In selecting an appropriate organization for a state-owned and/or state-operated Alaska Railroad, policymakers must understand the limitations of the existing organizational structure in order to avoid perpetuating them. These limitations are briefly described below:

- **Inability to Obtain Adequate Capital Investment Funds.** Although the Alaska Railroad, like any rail property, is capital intensive, the ARR has no continuing means for obtaining adequate funds for essential capital investments. All capital funds for the Alaska Railroad have been obtained out of the revenue generated by the railroad or from Congressional appropriations. The railroad is debt free, which is advantageous. However, the funds available from the two current capital sources, revenue and appropriations, have been insufficient to modernize much of the car fleet and other equipment including passenger cars. The process for obtaining the needed capital appropriations is difficult and usually political, providing the railroad with little assurance that the required funds will be available when necessary. The funding mechanisms presently available also make it impossible for the ARR to realistically plan and budget more than a year in advance. There is a need for the Alaska Railroad to be able to borrow capital investment funds and/or to raise such funds from a variety of public and private sources.

- **Marketing is Difficult Because of Competitive Issues.** As a federal agency, the Alaska Railroad faces difficult marketing conditions. If the railroad markets aggressively, other transportation firms allege that the reason for the railroad's traffic

success is public financial support. On the other hand, the lack of adequate marketing may result in the need for public subsidy. The Interstate Commerce Commission (ICC) was mandated by the Staggers Rail Act of 1980 to investigate such allegations. The ICC study has been completed and found that the questioned rates charged by the Alaska Railroad are compensatory and do not constitute predatory pricing, as was alleged by some of its marine and highway competitors. The Alaska Railroad needs the freedom to agressively market its transportation services.

- **Management Does Not Have Required Flexibility.** Alaska's economic activity is dynamic, which means that rail service needs also change frequently. Under its federal agency status, the Alaska Railroad management does not have the flexibility required to be responsive to changing rail service needs. Even though the railroad has enjoyed a certain autonomy through the years, there are endless federal regulations which must be followed in the transactions of daily business. The ARR management needs flexibility in operating the railroad if they are to make it a self-sufficient component of Alaska's economy and if the ARR is to contribute its full capability to Alaska's overall development.

- **Employees are Unsure of Their Status.** Most of the employees of the Alaska Railroad belong to unions in addition to being federal agency personnel. Therefore, the employees are uncertain whether they work for a railroad or for a federal agency. In effect, the railroad personnel have two sets of rules by which personnel matters are settled, and often these regulations conflict, causing confusion and sometimes hampering performance. They certainly make administration of the property difficult.

- **Needs for Rail Services Have Changed.** The Enabling Act for the Alaska Railroad established as primary purposes for the railroad the connection of Interior Alaska with open Pacific Ocean harbors and the stimulation of development. These purposes have either been fulfilled or are no longer applicable. There has not been a recent policy evaluation or a determination for various aspects of rail service in Alaska based on the changes which have occurred. These include such changes as:

  1. Statehood.
  2. Energy development in Alaska.
  3. Changes in Alaska ports and port development.
  4. Marine transportation interface changes.
  5. Railroad deregulation and availability of contract rates.
  6. Less reliance on rail transport for defense installations.
  7. Improvements in nonrailroad transportation in Alaska.

  Due to these circumstances, the state must clearly determine the role that the Alaska Railroad should now play as part of the Alaska transportation system.

- **Alaska Railroad is Burdened with Federal Agency Requirements.** The Alaska Railroad, in addition to the requirements placed on other common carriers by federal regulations, must also meet various federal agency requirements. Because it is a federal agency, numerous reports are required of the railroad that do not conform to railroad practices or procedures. The railroad must, therefore, spend time trying to force its operation into a format which was designed for other federal agencies. This results in nonproductive time and increased documentation either in preparing reports of no significant management value, explaining why the Alaska Railroad cannot comply with federal requirements, or explaining what was reported in an attempt to comply with external demands.

- **Procurement is Cumbersome and Slow.** The Alaska Railroad must follow federal procurement regulations. Since the Alaska Railroad is the only railroad owned and operated by the federal government, the equipment, materials, and supplies for the railroad are not common federal agency purchases. There are unnecessary delays in obtaining essential supplies and equipment which often limit the railroad's ability to either anticipate or react to market opportunities. The procurement process is also a public process which tends to preclude negotiated purchases and requires direct cash outlays, thereby increasing the costs.

- **Passenger Service is Subsidized by Freight.** Railroad passenger service is more of a social service than a business. Fares (which could be higher than they currently are) cannot be raised sufficiently to cover the true cost of the service. However, rail passenger service is publicly subsidized throughout the United States and the rest of the world. Since the rail freight service is used to subsidize passenger service in Alaska, the public has had to provide the Alaska Railroad with tax revenues for its operation, maintenance, and rehabilitation from

time to time. The accounting system on the Alaska Railroad does not adequately separate the freight and passenger costs for railroad expenses. There is a need to separate the freight and passenger costs and to allocate the passenger cost to the public as a social service.

- **Alaska Railroad Cannot Negotiate Solutions to its Problems.** As a federal agency, the Alaska Railroad has a high degree of public visibility. This tends to preclude the ARR's negotiating solutions to its problems or taking advantage of business opportunities. In the past, the railroad has been able to make certain business decisions without the necessity of Washington approval. Recently, however, there appears to be a shift toward centralization of decision making which prevents negotiations for business within Alaska.

Railroad Perspective: Public Service or Business?

The history of the Alaska Railroad bears out this split perspective of the railroad; is it public service or business? Viewed historically from a public service perspective, the Alaska Railroad has been a success. It has generally accomplished its public service mission by connecting Interior Alaska with open Pacific Ocean ports. The railroad has assisted in developing the urban communities in what has been called the "Railbelt" of Alaska. The ARR serves Alaska's coal fields; it has opened up the Matanuska Valley agricultural areas; it has fostered settlement of public lands. In addition, the ARR has moved large volumes of commodities to and from Alaskan communities and between them at a reasonable cost. Products have been made available at affordable transportation costs. The movement of military personnel and material by rail has aided the national defense structure. The railroad has also provided passenger trains as a public service function.

However, the view of the Alaska Railroad from the business perspective has been less clear and more intermittent. The business perspective involves railroad economics—meeting fully allocated costs plus a return on the investment. The Alaska Railroad has generally not been a profitable business enterprise, except for a few years of substantial traffic resulting from the war or pipeline construction.

This dichotomy between public service and business railroad operation has been reflected in the management and personnel of the Alaska Railroad. Marketing of the railroad's services, as previously mentioned, has also reflected this conflict of perspective. The management decisions which have been made on the railroad have, on occasion, reflected both the public service and the business perspectives.

Faced with the prospect of state ownership and (or) operation of the Alaska Railroad, the decision-makers in the State of Alaska must decide whether the property is to be governed from a public service or a business orientation. The long-range implications of this decision for the people of Alaska are significant. Much debate, discussion, and careful consideration will be required to determine this policy, and the state must also consciously decide where to draw the line between the public service and business sectors of the enterprise.

One major implication of the state's railroad perspective is in the selection of the organizational alternative for the Alaska Railroad. The organizational structure chosen by the state will not assure that the railroad will be operated from the perspective selected, but the appropriate organization can help to facilitate its operation within the framework established by the State of Alaska.

Finally, the transfer of the ARR to the state will provide Alaska with an opportunity to benefit from the railroad's past experience under federal government operation and resolve the uncertainty and conflicts of running the railroad as a public service versus a business operation.

Assumptions and Criteria for a State Railroad Organization

The following assumptions concerning the railroad and its relationship to the state were used to develop the criteria and proposals for an organization to operate a state-owned railroad:

1. The Alaska Railroad is to be transferred to the State of Alaska without direct compensation of the federal government, but with indirect costs to the state for existing liabilities and any requirements for capital investments.
2. The State of Alaska wishes to operate the railroad in the most efficient manner, minimizing the cost to the taxpayers of the state.
3. The Alaska Railroad is an important element of the state's transportation system, and any state investments relating to transportation will be made with full recognition of the importance and intermodal nature of the railroad.
4. The Alaska Railroad can and will be responsive to changing needs and opportunities for transportation services.
5. The railroad revenues are to be used to provide essential rail service, maintain and

improve railroad property, and meet operational expenses.
6. The public's capital investments are to be protected.
7. The rail service rates are to remain competitive.
8. Public railroad operational subsidies are to be minimized.
9. Rail users are to receive good service, including adequate service frequency, an adequate number of cars, and appropriate car types.
10. The Alaska Railroad is to cooperate with the state, local governments, ports, businesses, industries, and other transportation modes within established policies and legal constraints.

Establishing criteria designed to meet the rail service needs of Alaska will enable the state administration and legislature to evaluate the organizational alternatives subsequently described. Each organizational structure can be measured by the extent to which it satisfies the following criteria:

1. Ability to obtain access to public and private capital funds.
2. Freedom of management to make the railroad's operational decisions within established policies.
3. Clear-cut lines of management responsibility and accountability for decisions.
4. Marketing freedom within established policies and budgetary constraints.
5. Clear decision-making authority without a cumbersome and bureaucratic process.
6. Separation of freight and passenger service functions and accounting.
7. Ability to efficiently procure necessary supplies, equipment, services, and materials within appropriate policies and budgetary authority.
8. Management capability to make long-term commitments within established policies.
9. Management freedom to negotiate solutions to problems and to take advantage of service opportunities.
10. Industrial development capability on Alaska Railroad land.
11. Performance-based personnel management, including the direct ability to hire, fire, promote, train, supervise, and direct required railroad employees.
12. Ability to provide financial and other incentives for performance.

We recognize that it may not be possible or acceptable to have a state organization which fully meets all of these criteria. However, these criteria are important in defining the long-term objectives for the Alaska Railroad. The State of Alaska should seek an acceptable organizational structure which will enable the railroad to operate as effectively as possible within these areas.

Organizational Alternatives Considered

When we began this study, various alternatives were considered possible. Among these were:

- Keeping the status quo—letting the ARR continue to operate as a federal agency.
- Allowing the ARR to operate as a federal agency corporation like the Consolidated Railroad Corporation (Conrail) or Amtrak.
- Selling the ARR to private investors.

However, during the early stages of this study the federal government made clear its intentions to divest itself not only of the ARR, but also of Conrail and Amtrak, which precluded the first two alternatives. Further, the difficulty a private investor would have in financing the marginally profitable ARR, in addition to the complex issue of unresolved land-transfer problems, effectively precluded the third alternative. Thus, there emerged but three remaining alternatives that seemed to offer workable opportunities for the ARR. These included the state (1) operating the ARR as a line agency of the state, (2) operating it as a state public corporation or authority, or (3) leasing it out for operation by a private party. We examine these three alternatives in the following paragraphs.

Three Possible Alternatives

The Railroad as a State Line Agency

Under this approach, the state would take title to the railroad in a manner similar to state ownership of such other transportation facilities as airports, the Marine Highway System, and state highways. However, we should note that the long-term availability of railroad assistance funding from the federal government, either for capital or operating purposes, is very uncertain. There currently exists no trust fund for railroads as there is for airports or highways.

Under this alternative, the Alaska Railroad would logically be made a division or some other unit of the Alaska Department of Transportation and Public Facilities. The railroad personnel would therefore become employees of the state with all of the benefits available to other state employees.

Policy direction for the Alaska Railroad as a

state line agency would come from the governor, from the legislature through normal legislative processes, and from the commissioner of the department involved.

There are several advantages to establishing the Alaska Railroad as a state line agency. The management lines of authority and responsibility would be clear. The institutional structures and resources of the State of Alaska could be readily available for use on the railroad. Alaska Railroad employees would have the fringe benefits and other advantages of state employment, including reasonable job protection. Since the railroad already has a cadre of experienced and trained operational personnel, the transition from federal agency status to state agency status would be easier than other alternatives.

However, there are also significant disadvantages in organizing the railroad as a state line agency. The ARR would encounter most of the same limitations as a state agency as it now does as a federal agency. One of the most critical limitations would be the inability to obtain essential capital investment funds except by state appropriations. The competitive issues related to marketing, management flexibility, state agency regulations, procedures and requirements; the potential for even more direct political influence on operational decisions; and the public-service-versus-business-orientation questions are all disadvantages of this approach.

While the state agency alternative should be considered, it clearly does not meet most of the criteria established for a viable railroad organization. If the Alaska Railroad is to adequately fulfill its transportation role within its technological limitations, a state agency organizational structure is the least desirable of the three alternatives discussed in this report. It would be unfortunate if the State of Alaska were to place the Alaska Railroad in an organizational structure that perpetuated the limitations of federal agency status.

The Railroad as a State Public Corporation or Authority

There are precedents for this approach, both nationally and internationally. The West Virginia Railroad Maintenance Authority and the British Rail Corporation, with some variations, will serve as examples.

The West Virginia Railroad Maintenance Authority. The State of West Virginia has since 1975 owned and operated a railroad[17] similar in some ways to the ARR. The West Virginia Maintenance Authority (WVMA) consists of seven part-time members, including the governor as an ex-officio member. The other six members are appointed by the governor, with the consent of the state senate, for staggered 6-year terms. The authority selects its own officers and appoints an executive director (the chief administrative officer). The employees of the authority in West Virginia work for the state and are non-union.

The WVMA has all the powers needed to own and operate a railroad. These powers include the ability to plan, carry out projects, acquire property, sell or transfer property, contracts, and sue or be sued. The WVMA may raise capital via railroad authority revenue bonds. It may also acquire railroad rights in other states. In addition, the authority has the power of eminent domain.

The railroad experience in West Virginia has been generally successful, and with some modification, lessons learned there may be applicable to Alaska.[18]

The British Rail Corporation. Since its inception in the late 1940s, British Rail has operated as a profit-oriented transportation company, providing both freight and passenger service. A government-appointed chairman and an autonomous board of directors provide general policy for running the corporation, with each director responsible for a particular facet of the operation (passenger, maintenance, capital investment, etc.).

British Rail's chief executive is responsible to the board and the chairman, at the same time serving as a member of the board. The principal officers of British Rail serve at the pleasure of the Chief Executive.

The levels and nature of British Rail's passenger service are negotiated between the government and the corporation, with the government paying for passenger service provided.

British Rail's capital investment package overseen by the Minister of Transport includes a 5-year plan, the first 3 years of which are fixed. This establishes the capital limits, within which investments must fall. British Rail can only borrow through the government, and major projects must be approved by the Minister of Transport.

The ministry of Transport, through its Railways Division, oversees the capital investment program of British Rail. It also has some safety responsibilities. Regulation is not institutionalized. The marketplace drives most policy decisions of British Rail.

[17] The West Virginia Railroad carries no commercial passengers.

[18] A copy of the West Virginia Maintenance Authority Act is on file at the Alaska Department of Transportation and Public Facilities.

Like the West Virginia Railroad Authority, the British Rail Corporation offers a potential organizational model for the Alaska Railroad. If the Alaska Railroad, under state jurisdiction, were organized as an authority or public corporation under carefully worded state legislation, most of the federal agency limitations could be removed. Properly established under this approach, the Alaska Railroad could meet all of the criteria previously outlined for a state railroad organization.

The principal advantages of a public corporation or authority alternative are an ability to obtain access to required capital funds and freedom to manage and operate the railroad within policies established by a board. Management can be given flexibility and responsibility and can also be held accountable for its decisions. Passenger service can be accounted for separately and not subsidized by freight service. The state could determine the appropriate levels, locations, and other areas of passenger train service in accordance with their willingness to pay for the service selected. The freight rail service could be marketed and required to meet fully allocated costs. Thus, under this organizational scheme, it might be possible to reach a compromise between the public service and business purposes of the railroad.

A State Railroad with Private Operations

A third alternative would be for the State of Alaska to own the railroad and contract with private enterprise to provide for operations. The main difference between this and the other alternatives is the operation of the Alaska Railroad by a private organization.

Several states, such as South Dakota and Oklahoma, are using this approach. These states, among others, have experienced abandonment of significant rail lines that they considered essential to their economy and transportation systems. These are using state and federal funds to acquire and rehabilitate extensive rail lines. The Department of Transportation, as a representative of the state, takes title to the rail property (usually excluding rolling stock). The state then selects a private railroad with the required management experience, skills, and interest in operating its equipment over the line to furnish shippers and receivers with rail service. An operating agreement is negotiated with the private common carrier for rail service. The operational limitations of the railroad can be whatever the state and the railroad agree upon.

The negotiated operating agreement can include such provisions as the assignment of maintenance responsibilities; liabilities; frequency, level, and type of rail service; car supply; revenues; and costs. Thus, all of the appropriate criteria for a state railroad organization can be reflected in the operational agreement. This can even extend to the provision of required capital.

A major advantage of this approach is that once the operating agreement has been negotiated, the state has only a supervisory or overseer responsibility, plus whatever financial requirements have been determined by the negotiations. The railroad operations can include public service rail requirements as well as being performance based.

A substantial difficulty with this alternative for the Alaska Railroad is that no private railroad carrier is operating within the state. Too, there is the problem of the existing Alaska Railroad personnel. While the present railroad employees have the necessary knowledge of railroad operational peculiarities in Alaska, these are federal agency employees, with long-term rights rather than private employees whose rights are subject to negotiation. This could present such a significant liability to prospective private operators that it might be difficult to find interested parties. This approach, therefore, may be impractical unless the responsibility for the current Alaska Railroad personnel is assumed by the Federal Railroad Administration, while a private carrier, with the necessary qualifications, can be attracted as the operator. However, no one knows at this time whether or not such a private operator exists.

One variation to the alternatives described above is a concept under consideration in Iowa. It is an old concept which has proved successful in other organizations but which is new in its application to railroading. It involves the use of a general partner and limited partnerships.

A limited partnership is a very flexible institutional arrangement which could potentially attract substantial private capital. A major consideration in developing this institutional approach is the designation of the general partner. In order to legally establish a limited partnership, at least one financially responsible general partner must be found or established. The State of Alaska could establish an organization which could become the general partner for this railroad venture. Although limited partners are not subject to liability beyond their investment in the partnership, there is usually no limit to the liability of the general partner.

A limited partnership is, by law, a nontaxable entity. All gains or losses from the venture flow directly back to the investors (partners) for tax purposes. Partnerships are thus attractive because (1) there is no double taxation of income as with

corporations and(2) partners can take full tax advantage of losses, depreciation allowances, and tax credits. The ability to take advantage of depreciation allowances will become more important if the Reagan Administration's accelerated depreciation proposal is enacted. It would be necessary, of course, to examine legal constraints in Alaska for public involvement in limited partnerships. In Iowa, there is no apparent constitutional prohibition against public involvement in such arrangements.

It may be possible in such a limited partnership to attract rail users, businessmen, private individuals, and Alaska Railroad employees, among others. Thus, it would be advantageous to those with direct rail interests to see the Alaska Railroad succeed as a business venture while offering only limited individual liability. The idea and concept may be worthy of further consideration.

Alaska Railroad Transition

Transition Legislation and Problems

As noted earlier, the Federal Railroad Administration (FRA) has determined that the original intent of the Enabling Act for establishing and operating the Alaska Railroad has been met and federal responsibilities discharged. Thus, for the past several years, several federal administrations and the Department of Transportation have discussed divestiture of the Alaska Railroad by the federal government. However, it has only been since January 1981 that the decision was made to prepare legislation for such a divestiture and implementation steps taken.

The FRA has shown some urgency in getting the transfer legislation introduced and passed. This urgency results from a reduction of employees in the Federal Railroad Administration, as well as desire to cut the capital fund request of the Alaska Railroad. FRA's schedule calls for passing the legislation this fiscal year. The legislation proposes that the State of Alaska meet the transfer conditions within one year of enactment of the legislation. The draft legislation also provides for transferring the Alaska Railroad to other interested parties should the State of Alaska not meet the conditions for transfer within this time period.

The proposed legislation further embodies a number of discretionary "strings" attached to the transfer which would enable the federal government to ensure that the State of Alaska own and operate the Alaska Railroad in a manner commensurate with FRA's preconceived ideas. Failure by the state to conform to the provisions of the Act would be grounds for the FRA to reclaim the railroad within a 10-year period. The rationale for the continuing federal interest in the Alaska Railroad is predicated upon the offer of a no-cost transfer to the state.

In summary, there are numerous problems associated with the transfer of the Alaska Railroad from federal to state ownership. Federal transfer legislation will likely be passed by Congress before these problems have been resolved. The U.S. Department of Transportation has not determined the land, the structures, the right-of-way, nor equipment to be included in the transfer. Arrangements have not yet been made to provide for an orderly transfer of the employees from federal agency status. There is no organizational framework established within Alaska to accept the ownership, operation, or employees of the railroad. The FRA is anxious to relinquish ownership, operation, employee, and funding responsibilities of the Alaska Railroad. This could potentially result in postponement of major ARR operational decisions. Such postponement could jeopardize the smooth long-range operation of the railroad and perhaps result in lost traffic—an event not in the best interest of Alaska. In addition, the employees are left in a state of "limbo," not knowing for whom they will work, if they will have a job, how the transition will occur from federal employment, or what happens to the benefits received as a federal employee. The employees lack information, and many of their questions cannot be satisfactorily answered at this time.

State legislation will probably be required to accept the transfer of the Alaska Railroad. The state, however, has made no decision on the transfer question or on the organizational structure required to own and/or operate the railroad. The current railroad assets, obligations, and liabilities have not clearly been defined, which leaves the state with inadequate information on the short- and long-term financial and other requirements accompanying the proposed transfer.

The railroad needs to continue operation without disruption, since disruption would detrimentally affect the state's economy and economic development. And this would come when economic activity is quickly increasing .

These are some of the more important transitional problems. Unfortunately, these problems have not yet received the attention needed to determine their full implications. Time and additional efforts are required to provide the Alaska decision-makers with the information necessary to act in the best interest of the state. The complexities and extent of these transitional problems are likely to result in legal actions and court adjudication. A transitional bridge is needed to facilitate the smooth transfer of the Alaska Railroad from the federal government.

An Orderly Transition

Even if we assume that satisfactory federal legislation can be drafted and passed by Congress for the transfer of the Alaska Railroad from federal to state ownership, there will remain a significant period for transition. Along with land, employee, competition, and various obligation problems, the smooth transition to state ownership and operation is a most perplexing problem. How the transition is handled will have either a positive or adverse impact—long term as well as short term—on the railroad and its operations as well as on the State of Alaska.

During this transitional period, certain needs must be met if the railroad is to fulfill its important and special transportation function in Alaska. These include the need to:

- Continue the freight and passenger operation of the Alaska Railroad.
- Preserve as many potential operational and organizational alternatives for the state as possible.
- Provide adequate legal protection for the Alaska Railroad throughout the transitional period.
- Provide interim protection and transitional assistance for the employees of the Alaska Railroad.
- Provide adequate time for adjudicating the legal issues which have been raised by the transfer question, such as land title, equipment and railroad property, employee rights and benefits; existing or pending court cases, railroad agreements, contracts, and obligations.
- Establish an orderly process and procedure for solving problems which have been identified or which may arise during the transition.
- Provide the time required for the state administration and the legislature to consider the issues, to seek solutions to problems, and to deliberate carefully on the implications of each proposed state legislative bill without being faced with a stringent schedule and a crisis-type atmosphere.

Given the general mood of the Reagan Administration and the Congress to reduce federal expenditures and the federal perception of great Alaskan wealth, it is quite possible that Alaska Railroad transfer legislation will be passed this year. The State of Alaska will probably be faced with the need for a package of legislation which sets the tone and organizational framework for state ownership of the railroad if Congress passes transfer legislation. Under these circumstances, there is a genuine need to provide for an orderly transition from federal to state ownership. Sufficient time must be allowed to work out the myriad transitional problems.

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